United States Court of Appeals

for the Second Circuit

APPENDIX

ORIGINAL

75-7071

United States Court of Appeals

For the Second Circuit

AMERICAN METAL CLIMAX, INC.,
Plaintiff-Appellee,

against

ESSEX INTERNATIONAL, INC.,
Defendant-Appellant.

Appeal from the United States District Court for the Southern District of New York

---

JOINT APPENDIX

VOLUME I OF TWO VOLUMES

(Pages 1a to 572a)

WHITE & CASE
Attorneys for Defendant-Appellant
14 Wall Street
New York, New York 10005
732-1040

RAYNER M. HAMILTON
TODD B. SOLLIS
E. MILES PRENTICE
Of Counsel

PAUL, WEISS, RIFKIND WHARTON & GARRISON
Attorneys for Plaintiff-Appellee
345 Park Avenue
New York, New York 10022
644-8000

JAY H. TOPKIS
DORIS CARROLL
Of Counsel

MAR 14 1975

4

PAGINATION AS IN ORIGINAL COPY

TABLE OF CONTENTS

	PAGE
Relevant Docket Entries	1a
Amended Complaint	3a
Answer to Amended Complaint	8a
Reply	15a
Pre-Trial Order	17a
Plaintiff's Proposed Findings of Fact and Conclusions of Law	42a
Defendant's Proposed Findings of Fact and Conclusions of Law	69a
Findings of Fact and Conclusions of Law	128a
Order and Judgment	149a
Notice of Appeal	151a
Excerpts of Testimony	153a
Deposition of Thomas D. Kaufmann	504a
Deposition of Richard H. Publow	517a
Deposition of James M. Morris	529a
Deposition of Paul K. Raiford	542a
Exhibits	See Volume II

EXCERPTS OF TESTIMONY

Witnesses for Plaintiff

PAGE

Herbert C. Clough:
- Direct 154a
- Cross 186a
- Redirect 218a
- Recross 222a
- Rebuttal, Direct 495a
- Rebuttal, Cross 499a

Thorley D. Briggs:
- Direct 225a
- Cross 250a
- Redirect 279a

C. K. Li:
- Direct 280a
- Cross 289a

Ian Macdonald:
- Direct 301a
- Cross 311a
- Redirect 327a
- Recross 330a

James C. Dunstan:
- Direct 333a
- Cross 374a
- Redirect 392a, 395a
- Recross 394a, 395a

Thomas L. Seifert:
- Direct 397a
- Cross 402a

Paul W. O'Malley:
- Direct 403a

Charles V. Kilburn:
- Direct 412a
- Cross 487a
- Redirect 493a

EXHIBITS

EXHIBIT NO.	DESCRIPTION	PAGE
P-2	Letter to Nichols Wire & Aluminum Company from Essex Wire with Blind Carbon Copy to T. L. Seifert and Carbon Copy to S.p.A. Continuus Dated June 7, 1968	1E
P-6	Confidential Memorandum from J. C. Dunstan to P. W. O'Malley re Reduction Plant—Aluminum, Dated December 18, 1968	266E
P-9	Comparison of Canalco, Alcoa & Amax Proposals Signed by T. L. Seifert Dated October 27, 1967	4E
P-12	Letter from James C. Dunstan to T. D. Kaufmann Re Properzi Acceptance and Costs, Blind Carbon Copy to W. R. Funk and C. V. Kilburn Dated January 22, 1968	12E
P-13	Letter from T. D. Kaufmann to James C. Dunstan Re Problems in Starting Up Properzi, Copy to Loyer and Arrouet Dated February 8, 1968	16E
P-14	Letter from James C. Dunstan to T. D. Kaufmann Dated March 5, 1968 Re Charges to Paducah	18E
P-18	Letter from Herbert C. Clough to James Dunstan Re Status of Account with Amax Dated June 25, 1968	20E
P-19	Letter from James C. Dunstan to Herbert C. Clough Re Final Billings Dated July 5, 1968	24E
P-20	Letter from Herbert C. Clough to James Dunstan Re Properzi Operation, Blind Carbon Copy to Kalil Dated July 22, 1968	26E
P-21	Letter from Thomas L. Seifert to Herbert C. Clough Enclosing Check for $424,898.95 Re Settlement Dated July 26, 1968	28E
P-24	Letter from James M. Morris to James Dunstan Re Assignment of Nichols Personnel to Assist in Meeting Operation Specifications for Properzi No. 8 Equipment Dated May 2, 1968	32E

EXHIBIT NO.	DESCRIPTION	PAGE
P-26	Letter from J. M. Morris to James C. Dunstan Re Releases of Claims Arising Out of Properzi No. 8 Equipment and OTT Coiler Dated June 25, 1968	35E
P-28	Letter from J. M. Morris to James C. Dunstan Dated July3, 1968 Re Cancellation, Copy to O'Malley and Seifert on July 5, 1968	268E
P-29	Letter from James C. Dunstan Dated May 10, 1968 to Stephen Furbacher Re Properzi Bailment Lease Agreement and Aluminum Purchase Agreement Dated December 14, 1966	37E
P-31	Letter from Stephen A. Furbacher Dated May 17, 1968 to James C. Dunstan Re Properzi Bailment Lease Agreement and Aluminum Purchase Agreement Dated December 14, 1966 (Registered Letter)	40E
P-33	Letter from James C. Dunstan Dated May 24, 1968 to Stephen A. Furbacher Re Properzi Bailment Lease Agreement and Purchase Agreement Dated December 14, 1966	43E
P-34	Registered Letter from Furbacher to Essex Wire Corporation Dated May 29, 1968 Re Properzi Bailment Lease Agreement and Aluminum Purchase Agreement Dated 12/14/66	46E
P-48	Warehouse Inventory, Shipping Records and Memoranda	49E
P-54	31 Page Agreement Between Essex Wire Corporation Signed by P. W. O'Malley and Aluminum Company of America Signed by S. J. Simmons, Jr. Dated December 26, 1967	104E
P-62	Document to J. H. Thornton from Edw. G. Murray Dated January 24, 1968 Re Projected Aluminum Usage for 1968	136E
P-64	Document to J. H. Thornton from Edw. G. Murray Dated October 14, 1968 Re Aluminum Distribution for 1969	138E

EXHIBIT NO.	DESCRIPTION	PAGE
P-66	Speed Memo to J. Dunstan Dated December 30, 1968 from Edw. Murray Re Alum Rod Usage	140E
P-101	Confidential Memorandum from H. C. Clough to Files Re Properzi-Essex Wire Billings Dated July 26, 1968	142E
P-103	Summary of Amax Invoices to Essex for Properzi Metal Shipments and Start-up Costs	144E
P-106	Plaintiff's Revised Calculation of Damages Introduced at Trial	155E
D-1	Four Page Bailment Lease Agreement Between Essex Wire Corporation and American Metal Climax, Inc., Dated December 14, 1966	157E
D-2	Purchase and Sale Agreement Dated December 14, 1966 Between American Metal Climax, Inc. and Essex Wire Corporation	162E
D-8	Memorandum from W. R. Funk to J. Dunstan Dated 4/29/68 with Copies to W. O'Malley and W. Jorgensen	169E
D-11	Letter from Herbert C. Clough to James Dunstan Dated June 25, 1968 with Statement Attached	173E
D-12	Letter to Herbert C. Clough from James C. Dunstan Dated July 5, 1968 Re Billing	177E
D-30	Inter-Office Memorandum from T. D. Briggs to H. C. Clough Dated May 29, 1968 Re Properzi Costs and Premiums	179E
D-32	Memorandum from J. L. Loyer to Herb Clough Dated June 19, 1968 Re Properzi with Attachments	184E
D-40	Memorandum to the Files Dictated by H. C. Clough Re Essex Wire Dated June 18, 1968	192E
D-49	Memorandum to Mr. Erwin Weil Re Essex Wire Corporation Controversy Dated October 30, 1968 from H. C. Clough	195E

EXHIBIT NO.	DESCRIPTION	PAGE
D-51	Office Memorandum to Essex Wire Corporation from Herbert C. Clough Dated January 2, 1969 Returning Check No. 37178 with Receipt for Letter and Check and Endorsement on Back of Check	197E
D-93	Letter to James Dunstan from T. D. Kaufmann Dated March 13, 1968	202E
D-95	Letter from Thomas D. Kaufmann to Mr. Paul O'Malley Dated August 8, 1966 with Attachments	204E
D-96	Memorandum from Thomas D. Kaufmann to Mr. D. L. Farley Dated August 15, 1966 Re Essex Wire-Properzi Agreement	208E
D-97	Letter to Edward Downing, Esq. from David L. Farley, Jr., Assistant General Attorney Dated August 30, 1966 with Carbon Copy to S. A. Furbacher and T. D. Kaufmann	210E
D-98	Letter to David L. Farley, Jr., Esquire from Edward D. Downing Dated September 9, 1966	212E
D-121	Memorandum from Paul Hoboy to T. D. Kaufmann, J. Walker, T. D. Briggs Dated July 26, 1967 Re Properzi Process with Attachments	214E
D-130	Inter-Office Memorandum from T. Briggs to J. Loyer Dated March 8, 1968 Re Properzi Conditions of Acceptance	221E
D-136	Dated, Signed Copy of Agreement Between American Metal Climax, Inc. and The Okonite Company	224E
D-140	Handwritten Notes Concerning Essex's Claim of Maintenance Delay with Three Pages of Description	230E
D-247	Letter from J. M. Morris to Milton H. Nichols Dated August 29, 1967 Re Equipment, Copy to A. Douglas Hannah and J. B. Russell	235E
D-248	Letter from J. B. Russell to Charles V. Kilburn Dated September 11, 1967 Re Properzi No. 8—Ring Molds, Copy to Earl Gottschalk and J. M. Morris	237E

EXHIBIT NO.	DESCRIPTION	PAGE
D-251	Letter from Mr. Properzi to James B. Russell Dated December 5, 1967 Re Report on Present Progress of Plants, Ring Molds at General Cable	239E
D-252	Letter from J. B. Russell to Ilario Properzi Dated December 14, 1967 Re Casting	242E
D-274	Letter from James C. Dunstan to Mr. James M. Morris Dated June 25, 1968 Re Cancellation by Essex Wire Corporation of Purchase Order for Model 8 Continuous Casting Equipment and OTT Coiler	270E
D-276	Letter from James C. Dunstan to J. M. Morris Dated June 28, 1968 Re Settlement	246E
D-279	TELEX from Nichols Aluminum Company to James C. Dunstan Dated July 9, 1968 Submitting TELEX Received from Office Technique Des Trefiles	272E
D-302	Memorandum from J. C. Dunstan to E. D. Downing Dated October 28, 1968 Re Twin Reel Coiler	248E
D-304	Letter from Dunstan to Morris Dated October 14, 1968 Re Prepayment Refund to Essex for Second Properzi Model 8	250E
D-319	Memorandum from Dennis Arrouet to T. D. Kaufmann Dated February 5, 1968 Re Properzi at Intalco	253E
D-725	Memorandum from Edwin C. Murray to P. O'Malley Dated July 22, 1968 re Aluminum Usage, Inventory & Requirements	274E
D-726	Defendant's Calculation of Actual Cost to Essex of Intalco Rod Introduced at Trial	256E
D-729	Defendant's Calculation of Plaintiff's Damages (if any) Introduced at Trial	258E
D-730	Chart of Defendant's Damages Introduced at Trial	260E
D-735	Extract from Year Book of the American Bureau of Metal Statistics	262E

Relevant Docket Entries

69 Civ. 1979

DATE	PROCEEDINGS
5- 8-69	Filed complaint and issued summons.
5-18-70	Filed Amended Complaint and jury demand.
5-28-70	Filed deft's Answer to amended complaint.
8- 3-70	Filed pltff's Reply to deft's counterclaims.
1-14-74	Filed consent and pre-trial order. Motley, J.
2-13-74	Filed pltff's proposed findings of fact and conclusions of law.
2-13-74	Filed deft's proposed findings of fact and conclusions of law.
4-25-74	Filed transcript of record of proceedings held 1-17-74, 1-18-74, 1-21, 1-22, 1-23-74.
11-25-74	Filed Opinion #41470—pltff. American Metal Climax, Inc. (Amax) is a New York Corporation, etc. Deft., Essex International, Inc. (Essex) is a Michigan corporation, with its principal place of business in Indiana. The case involves mutually exclusive claims of breach of contract. As supported by the following Findings of Facts and Conclusions of Law, the court concludes that Essex breached its obligations under the bailment lease agreement and anticipatorily repudiated the supply contract. The court also finds that Essex has failed to carry its burden of proving its defenses of consent or waiver, accord and satisfaction, and estoppel and that pltff. suffered damages in the form of lost profits in the amount of $4,090,140, plus interest. Finally, the court finds that Amax is entitled to $424,-898.95, plus interest in accordance with the agreement of the parties dated 7-25-1968 and costs. Amax is directed to submit an order and proposed judgment in conformity with this opinion, on five days' notice. Motley, J. (m/n)

Relevant Docket Entries

DATE	PROCEEDINGS
12-20-74	Filed Order and Judgment #74,989—ordered that pltff. American Metal Climax, Inc. have judgment against deft. Essex International, Inc. on Counts I and II of the amended complained in the amount of $4,090,140.00, with interest thereon from 5-10-68 at the rate of 6 per cent as provided by law—that pltff. have judgment against deft. on Count III of the amended complaint in the amount of $424,-898.95 with interest thereon from 7-25-68, at the rate of 6 per cent—that the deft. take nothing on its first and second counterclaims, and that the first and second counterclaim be, and they hereby are dismissed on the merits—and that pltff. recover of the deft. the costs of the action to be taxed by the Clerk of the Court. Motley, J. Judgment entered 12-20-74 (m/n)
1-17-75	Filed deft's notice of appeal from the order and judgment entered on 12-20-74. Copy to: Paul Weiss Rifkind Wharton & Garrison. Entered 1-17-75.

Amended Complaint

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

[SAME TITLE]

Plaintiff, by its attorneys, Paul, Weiss, Goldberg, Rifkind, Wharton & Garrison, for its complaint, alleges:

Allegations Common to Counts I and II

1. Plaintiff is a corporation organized and existing under the laws of the State of New York, and has its principal place of business in the State of New York.

2. Defendant is a corporation organized and existing under the laws of the State of Michigan, and has its principal place of business in a state other than New York. Prior to December 19, 1968 and at all times relevant to the acts complained of herein, defendant bore the name "Essex Wire Corporation."

3. The matter in controversy exceeds, exclusive of interest and costs, the sum of $10,000.

4. On or about December 14, 1966, plaintiff and defendant entered into an agreement ("lease agreement") pursuant to which defendant agreed and contracted to lease to plaintiff a Properzi continuous caster ("the Properzi") to be used in the production of coiled aluminum rod 3/8" stock ("rod").

5. On or about December 14, 1966, plaintiff and defendant entered into a contract ("supply contract") where-

by plaintiff agreed to sell and defendant agreed to purchase certain quantities of rod annually at certain prices for seven years, ending December 31, 1973.

Count I

6. By the lease agreement, defendant represented and agreed that it would:

(a) Install the Properzi at the Intalco Aluminum Corp. ("Intalco") plant in Ferndale, Washington (Intalco is a joint venture in which plaintiff has a 50% interest);

(b) Be responsible for the "original running in" of the Properzi;

(c) Provide adequate training for the original crew that was to operate the Properzi; and

(d) Give plaintiff all the technical assistance needed to run the Properzi throughout the life of the lease.

7. By the lease agreement, plaintiff acquired the right to produce rod for itself and for its customers, including defendant, and defendant acquired the right to a designated payment for each pound of rod produced.

8. As contemplated in the lease agreement, plaintiff entered into the supply contract with defendant and also into supply contracts with other customers for the manufacture and sale of rod.

9. Defendant never discharged its responsibility for the "original running in" of the Properzi.

10. The lease agreement provided that plaintiff would return the Properzi to defendant on December 31, 1973 "or on such date as may be mutually agreed upon."

11. Without consulting with or obtaining consent from plaintiff, and contrary to the terms of the lease agreement, defendant, on or about May 10, 1968, notified plaintiff by letter that it would promptly remove the Properzi from the Intalco plant.

12. Soon after May 10, 1968, defendant wrongfully removed the Properzi from Intalco. Defendant shipped the Properzi to defendant's plant in Booneville, Indiana.

13. As a direct result of defendant's wrongful failure to perform its obligations under the lease agreement, plaintiff was unable to fulfill its existing contracts for the manufacture and sale of rod, including its supply contract with defendant, and was unable to enter into future contracts for the sale of rod.

14. By reason of the foregoing, plaintiff has been damaged in the sum of $24,197,000.

Count II

15. On or about May 10, 1968, without prior warning or discussion, defendant wrongfully repudiated all its obligations under the supply contract, and gave plaintiff notice that it did not intend to render any further performance under this agreement.

16. Up to and including the time of defendant's repudiation, plaintiff had performed, and was ready, able and willing to perform all the conditions and terms of the supply contract to be performed by it.

17. By reason of the foregoing, plaintiff has been damaged in the sum of $7,737,000.

Count III

18. Plaintiff repeats and realleges the allegations in paragraphs 1, 2 and 3 herein.

19. On or about July 25, 1968, defendant and plaintiff agreed:

(a) With respect to amounts billed defendant by plaintiff for hot metal supplied to the Properzi at Intalco and for certain direct, indirect, fixed, and variable costs incurred by plaintiff in connection with the maintenance and running in of the Properzi, defendant would pay plaintiff the sum of $424,898.95;

(b) Plaintiff would accept such payment in complete satisfaction of all amounts billed through and including June 19, 1968 and of additional fixed costs billed through the end of July 1968.

20. Defendant has failed to fulfill its obligations under the aforesaid agreement and is in breach thereof, having failed to make the promised payment, but having given plaintiff a check in the amount of $424,898.95 which was wrongfully endorsed "Final settlement of all disputes arising from Bailment Lease Agreement and Purchase and Sale Agreement dated December 14, 1966, between Essex Wire Corporation and American Metal Climax, Inc."

21. By reason of the foregoing, plaintiff has been damaged in the sum of $424,898.95.

WHEREFORE, plaintiff demands judgment against the defendant,

on Count I for the sum of $24,197,000;

on Count II for the sum of $7,737,000; and

on Count III for the sum of $424,898.95,

all with interest and the costs of this action.

Dated: New York, New York
April 28, 1970

Yours, etc.,

PAUL, WEISS, GOLDBERG, RIFKIND,
WHARTON & GARRISON

By Jay H. Topkis

Jay H. Topkis
Attorneys for Plaintiff
Office & P.O. Address
345 Park Avenue
New York, New York 10022
935-8000

Answer to Amended Complaint

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

[SAME TITLE]

Defendant, by its attorneys, White & Case, for its answer to the amended complaint:

1. Denies knowledge and information sufficient to form a belief as to each allegation contained in paragraphs 1 and 3.

2. Admits that on or about December 14, 1966, plaintiff and defendant entered into an agreement ("lease agreement") but except as herein expressly admitted denies each allegation contained in paragraph 4 and respectfully refers to said agreement for the terms thereof.

3. Admits that on or about December 14, 1966, plaintiff and defendant entered into a contract ("supply contract"), but except as herein expressly admitted denies each allegation contained in paragraph 5 and respectfully refers to said agreement for the terms thereof.

4. Denies each allegation contained in paragraphs 6, 7, and 10 and respectfully refers to the lease agreement for the terms of said agreement.

5. Denies knowledge and information sufficient to form a belief as to whether plaintiff entered into supply contracts with other customers for the manufacture and sale of rod, admits that plaintiff entered into the supply con-

tract with defendant, but except as herein expressly treated denies each allegation contained in paragraph 8.

6. Denies each allegation contained in paragraphs 9, 14, 16, 17, and 21.

7. Admits that defendant, on or about May 10, 1968, notified plaintiff by letter that it would promptly remove the Properzi from the Intalco plant, but except as herein expressly admitted denies each allegation contained in paragraph 11.

8. Admits that after May 10, 1968, defendant removed the Properzi from Intalco and shipped the Properzi to Booneville, Indiana, but except as herein expressly admitted denies each allegation contained in paragraph 12.

9. Denies knowledge and information sufficient to form a belief as to whether plaintiff was unable to fulfill its existing contracts for the manufacture and sale of rod and was unable to enter into future contracts for the sale of rod, but except as herein expressly treated denies each allegation contained in paragraph 13.

10. Admits that on or about May 10, 1968, defendant gave plaintiff notice that removal of the Properzi would terminate the supply contract, but except as herein expressly admitted denies each allegation contained in paragraph 15.

11. Repeats and realleges its answers to paragraphs 1, 2 and 3 in response to paragraph 18.

12. Admits that on or about July 25, 1968, defendant and plaintiff agreed that defendant would pay plaintiff the sum of $424,898.95 in settlement of their respective claims

and that plaintiff would accept such payment in complete satisfaction of all claims, but except as herein expressly admitted denies each allegation contained in paragraph 19.

13. Admits that defendant gave plaintiff a check in the amount of $424,898.95 which was endorsed "Final settlement of all disputes arising from Bailment Lease Agreement and Purchase and Sale Agreement dated December 14, 1966, between Essex Wire Corporation and American Metal Climax, Inc.", but except as herein expressly admitted denies each allegation contained in paragraph 20.

First Affirmative Defense

14. Plaintiff failed to perform its obligations under the lease agreement. In addition, the Properzi failed to live up to specifications. Therefore, as provided for in paragraphs 3 and 7(d) of said agreement, defendant entered the Ferndale plant, took possession of the Properzi, and removed it.

Second Affirmative Defense

15. On or about July 22, 1968, an agreement was entered into between plaintiff and defendant which constituted a final settlement of all disputes arising from the two agreements.

16. Pursuant to this settlement agreement, on or about July 29, 1968, defendant delivered to plaintiff a check in the amount of $424,898.95 as the final settlement payment.

17. Plaintiff accepted this final settlement, retained the check, and did not return such payment within a reasonable time. Such action, together with defendant's prior conduct, constituted a release of all claims arising from the two agreements.

Answer to Amended Complaint

Third Affirmative Defense

18. On or about May 10, 1968, again on or about May 24, 1968, and at various other times before and after these dates, defendant informed plaintiff that the Properzi had failed to live up to its specifications, and that defendant was promptly going to remove the Properzi and related machinery and restore the site pursuant to the provisions of the lease agreement. Plaintiff agreed and consented to this removal and restoration which was thereafter effectuated.

19. Plaintiff's consent to the removal of the Properzi, agreement to the final settlement on July 22, 1968, subsequent acceptance and retention of said check, and other actions, constituted a waiver of all claims against defendant upon the two agreements.

Fourth Affirmative Defense

20. In reliance upon plaintiff's consent and agreement, defendant removed the Properzi and related equipment and restored the site pursuant to the terms of the lease agreement.

21. In reliance upon plaintiff's consent to this removal of the Properzi, plaintiff's agreement to the final settlement, plaintiff's acceptance and retention of payment, plaintiff's release and waiver of all claims arising out of the two agreements, and plaintiff's other actions, on or about October 14, 1968, defendant released and discharged S.p.A. Continuus and Nichols Aluminum Company for any responsibility for costs or problems defendant had in connection with the Properzi, including those claimed to have occurred at the Intalco installation and any claim that either Continuus or Nichols warranted a production of 14,000 pounds per hour.

Answer to Amended Complaint

22. Because of the foregoing acts by plaintiff, and defendant's reliance thereon, plaintiff is estopped from asserting any claim against defendant based in whole or in part upon said two agreements.

Fifth Affirmative Defense

23. The supply agreement contains an arbitration clause in paragraph 9. This provision for arbitration constitutes plaintiff's sole remedy based upon any controversy or claim arising out of the supply agreement or any alleged breach thereof.

Sixth Affirmative Defense

24. Plaintiff's complaint fails to state a claim upon which relief can be granted.

First Counterclaim

25. Pursuant to the lease agreement, plaintiff was responsible for the day-to-day maintenance of the Properzi, making repairs as necessary for its preservation, subject to ordinary wear and tear. Plaintiff did not discharge its responsibilities under this paragraph, and also did not perform other obligations imposed upon it by the lease agreement. At all times when plaintiff was failing to discharge such obligations, defendant was ready, able and willing to perform all the conditions and terms of the lease agreement and the supply contract to be performed by it.

26. As a direct result of plaintiff's wrongful failure to perform these obligations, defendant's supply of aluminum rod from the Properzi was diminished and delayed, defendant's profits under paragraph 2 of the lease agreement were foreclosed, and the benefits accruing to defendant under the supply agreement were eliminated.

Answer to Amended Complaint

27. Throughout the negotiations which led up to the two agreements and throughout the relationship between plaintiff and defendant which followed, it was anticipated by both parties that a joint venture would be undertaken to erect, operate, and share in an aluminum reduction plant. In reliance upon plaintiff's assurances in this regard, defendant passed up opportunities to participate in comparable ventures with other parties.

28. As a direct result of plaintiff's wrongful failure to perform its obligations under the lease agreement, the anticipated joint venture between defendant and plaintiff has not materialized and defendant has been delayed and precluded from ownership in an aluminum reduction plant and from entering the basic aluminum industry.

29. By reason of the foregoing, defendant has been damaged in an amount no less than $28,102,375.

Second Counterclaim

30. During June and July of 1968, plaintiff consented to the removal of the Properzi from the Natalco site by defendant pursuant to the terms of the lease agreement, and permitted defendant to effectuate such removal.

31. On or about July 22, 1968, plaintiff agreed with defendants to a final settlement of all disputes arising from the two agreements. Pursuant to this final settlement, on or about July 29, 1968, defendant delivered to plaintiff a check in the amount of $424,898.95 which was accepted and retained by plaintiff.

32. Such actions by plaintiff induced defendant to release certain claims it had against S.p.A. Continuus and Nichols Aluminum Company on or about October 14, 1968.

33. This consent to the removal of the Properzi, agreement to the final settlement, acceptance of the check from defendant, and other actions by plaintiff were fraudulent misrepresentations of facts and were intended by plaintiff to deceive defendant. As a result of these fraudulent misrepresentations of facts, defendant was induced to release its claims against S.p.A. Continuus and Nichols Aluminum Company.

34. Because of this fraudulent misrepresentation, defendant has been damaged in an amount equal to any liability to plaintiff which would have given rise to a claim by defendant against either Continuus or Nichols.

WHEREFORE, defendant demands judgment dismissing the complaint, with costs of this action, and judgment against plaintiff for the damages determined to have been sustained by defendant, with interest and costs.

Dated: New York, New York
May 28, 1970

Yours, etc.,

WHITE & CASE

By Rayner M. Hamilton

A Member of the Firm
Attorneys for Defendant
14 Wall Street
New York, New York 10005
732-1040

Reply

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

[SAME TITLE]

Plaintiff, by its attorneys, Paul, Weiss, Goldberg, Rifkind, Wharton & Garrison, for its reply to defendant's counterclaims:

1. Denies each and every allegation contained in paragraph 25 and refers to the lease agreement and the supply contract for their terms.

2. Denies each and every allegation contained in paragraphs 26, 28 and 29.

3. Denies each and every allegation contained in paragraph 27 except states that it lacks knowledge or information sufficient to form a belief as to whether defendant passed up any opportunities as alleged therein.

4. Denies each and every allegation contained in paragraph 30.

5. Denies each and every allegation contained in paragraph 31 except admits that by letter dated July 26, 1968 defendant delivered to plaintiff a check in the amount of $424,898.95.

6. Denies each and every allegation contained in paragraphs 32, 33 and 34.

Reply

WHEREFORE, plaintiff demands judgment dismissing defendant's counterclaims.

Dated: New York, New York
July 21, 1970

Yours, etc.,

PAUL, WEISS, GOLDBERG, RIFKIND,
WHARTON & GARRISON

By Jay H. Topkis

Jay H. Topkis
Attorneys for Plaintiff
Office & P.O. Address
345 Park Avenue
New York, New York 10022
935-8000

Pre-Trial Order

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

[SAME TITLE]

The attorneys for plaintiff American Metal Climax, Inc. ("AMAX"), and the attorneys for defendant Essex International, Inc. ("Essex"), having appeared before the Court at a pre-trial conference pursuant to Rule 16 of the Federal Rules of Civil Procedure, the following action was taken:

Jurisdiction:

A. The parties to this action agreed that the jurisdiction of this Court is based upon 28 U.S.C. §1332; that there is diversity of citizenship of the parties and that the matter in controversy exceeds the sum of $10,000 exclusive of costs and interest.

Amendment of Pleadings:

B. The pleadings were agreed to be deemed amended in accordance with the framing of the issues in this action in paragraph O of this pre-trial order.

C. The parties agreed that the trial of this action shall be based upon this order and upon the pleadings as amended.

Facts Not in Dispute

D. The parties stipulated that the following facts are not in dispute in this action (each party reserving the right

to object to the materiality of any such stipulated fact and its relevancy to the issues):

(1) Plaintiff American Metal Climax, Inc. is a New York corporation with its principal place of business in New York.

(2) Defendant Essex International, Inc. is a Michigan corporation with its principal place of business in Indiana.

(3) Continuus is an Italian manufacturer which produced the machine called a Model 8 Properzi continuous caster (the "Model 8 Properzi").

(4) Nichols Wire & Aluminum Co. ("Nichols") was the United States agent for Continuus.

(5) A Model 8 Properzi continuous caster is a machine which, *in essence,* casts molten aluminum into ⅜" coiled aluminum rod.

(6) On or about April 13, 1966, Essex orally ordered from Nichols a Model 8 Properzi to be manufactured by Continuus, and, on or about April 26, 1966, Essex confirmed such order by a written purchase order.

(7) The Model 8 Properzi was warranted by Continuus to produce 14,000 pounds of aluminum rod per hour.

(8) The Model 8 Properzi ordered by Essex was to be the first of its size, although smaller models manufactured by Continuus were in operation in the United States.

(9) At all relevant times Paul O'Malley was the president of Essex.

(10) At all relevant times Stephen Furbacher was the president of AMAX.

(11) On or about August 5, 1966 Messrs. O'Malley and Furbacher met at the office of the latter.

(12) At the August 5, 1966 meeting, tentative agreement was reached as what would later become two written agreements between AMAX and Essex, the "lease agreement" and the "supply contract".

(13) Intalco Aluminum Corporation ("Intalco") is a joint venture in which AMAX has a 50% interest.

(14) Intalco maintains a plant in Ferndale, Washington.

(15) The Model 8 Properzi was to be installed on the Intalco premises.

(16) During the fall of 1966, representatives of Essex met with representatives of Intalco to discuss the proposed installation of the Model 8 Properzi.

(17) On or about December 14, 1966, AMAX and Essex entered into two written agreements, the "lease agreement" and the "supply contract," copies of which were attached as Exhibits A and B respectively to plaintiff's original complaint.

(18) The lease agreement, made on December 14, 1966, between Essex and AMAX provided "Amax shall return the Properzi to Essex on December 31, 1973 (or on such other date as may be mutually agreed upon) in as good a condition as when received, ordinary wear and tear excepted. * * *"

(19) The lease agreement provided:

"2. The Properzi may be used by Amax to produce rod bar stock for Amax or its designees or customers at any time the Properzi is not being operated for the Essex account. For any rod bar stock so produced for other than Amax, Amax will pay Essex ⅜¢ per pound so produced. Essex will charge Amax only ¼¢ per pound for each pound of bar stock produced on the Properzi for the account of Amax."

(20) The lease agreement provided:

"3. Essex will install the Properzi at the location at said Ferndale, Washington plant designated by Amax in consultation with Amax. After installation, Essex will provide adequate training at Ferndale in the operation of the Properzi for the original crew of personnel, who will operate the Properzi. Essex will be responsible for the original running in of the Properzi and Amax' responsibility, under the rod bar stock Purchase and Sale Agreement between the parties of even date herewith, for the delivery of bar stock will not start until the Properzi is fully installed by Essex and operating normally."

(21) Paragraph 3 of the lease agreement also provided:

"Throughout the life of this lease Essex shall be obligated to give Amax, or its designee, all the technical assistance needed to run said Properzi. Should the Properzi fail to live up to its specifications, Essex promptly will fix or remove the Properzi and restore the site."

(22) The lease agreement further provided:

> "4. From the completion of the installation of the Properzi, expected on or before March 31, 1967, and its running in subsequent to that date, Amax shall be responsible for the day-to-day maintenance of the Properzi, making repairs as necessary for its preservation, subject to ordinary wear and tear."

(23) Plaintiff entered into the supply contract with defendant.

(24) The supply contract provided:

> "* * * Essex hereby purchases and agrees to receive and pay for and Amax sells and agrees to ship from the plant at Ferndale, State of Washington, * * * coiled aluminum rod (bar) 3/8 inch stock as hereinafter stated: Quantity per calendar year: 1967: minimum of 15,000,000 pounds and maximum (at Essex' option) of 18,000,000 pounds. 1968-1973: minimum of 18,000,000 pounds per year and maximum (at Essex' option) of 25,000,000 pounds; except that if production on a potline is started by Amax and Essex after 1970, the quantities for the first subsequent year under this Agreement shall be a minimum of 10,000,000 pounds and a maximum (at Essex' option) of 15,000,000 pounds, and if the next subsequent year falls within the period of this Agreement a minimum of 5,000,000 pounds and a maximum (at Essex' option) of 10,000,000 pounds for that year."

(25) The supply contract provided, under "Conditions of Sale", that:

> "2. Amax shall have no obligation under this Agreement until the Properzi facilities covered by

the Bailment Lease between the parties of even date herewith have been fully installed by Essex and are operating normally."

(26) On December 14, 1966 a meeting was held at the offices of AMAX at which representatives of AMAX, Essex, Intalco, Hunter Engineering Co., Warwick Industrial Furnace & Engineering Co. and the Bechtel Corp. recognized that the work on the Properzi machine had not been initiated as rapidly as had been anticipated in the October meetings and that the schedule contained in Bechtel's October 26, 1966 proposal to Essex would have to be set back.

(27) Charles Kilburn was designated by Essex to supervise the installation and operation of the Model 8 Properzi.

(28) Delivery of the Model 8 Properzi was delayed through no fault of either plaintiff or defendant.

(29) During the latter part of 1967 and early 1968 there were various discussions between representatives of AMAX and Essex as to when the Model 8 Properzi machine was to be considered "operating normally".

(30) By an exchange of letters, dated January 22, 1968 and February 8, 1968, tentative agreement was reached between AMAX and Essex that the Model 8 Properzi would be deemed "operating normally" when:

"A. The Properzi has operated for two weeks at an average production of 90% of the rated 14,000 pounds per operating hour on the original first trained shift.

"B. The Properzi has produced in the two weeks mentioned in 'A' above at least 750,000 pounds of acceptable redraw rod.

"C. The Properzi production crew size has been stabilized at no more than six people per shift while the machine is in operation."

The fourth condition proposed by Essex, concerning spare parts, was:

"D. The items relating to equipment details questioned by the Intalco operating people have been discussed with the various maintenance and operating supervision and decisions arrived at for satisfactory course of action. In regard to spare parts, we have ordered the original group of spares for the mill as recommended by Properzi, amounting to $75,403.00. In addition, we have ordered electrical spares amounting to $9,228.00 and parts for the lubrication system amounting to $3,656.00 as recommended by Properzi. We feel that as far as costs are concerned, this would be the extent of Essex responsibility for spares and Amax would return the value of parts at the end of the contract. For information purposes, C. V. Kilburn will pursue more accurate maintenance data for Type 8 Properzi and will revise the list when better information is available."

With respect to this fourth condition proposed by Essex, AMAX vice-president Kaufmann replied:

"Your proposal on spare parts under D seems to be reasonable but I would prefer to wait until the people at Intalco have gone over the complete list per the procedure we had set up in Bellingham at our earlier meeting before I give final agreement."

(31) The Model 8 Properzi was first run on November 3, 1967.

(32) On December 26, 1967 Essex entered into an agreement to purchase aluminum from the Aluminum Company of America.

(33) By letter dated May 2, 1968 from James M. Morris of Nichols Aluminum Company to James Dunstan of Essex, Nichols offered a certain contractual arrangement to cover the assignment of Nichols personnel to assist in the start-up of the Properzi.

(34) In May 1967, Essex placed an order with Nichols for the purchase of a second Model 8 Properzi to be manufactured by Continuus and to be installed at Essex' Paducah Plant.

(35) On May 10, 1968, Essex notified AMAX that:

> "Pursuant to the last sentence of paragraph 3 of the Bailment Lease Agreement dated December 14, 1966, between Essex Wire Corporation and America Metal Climax, Inc., the Properzi continuous caster and related equipment has failed, after repeated attempts to fix the machinery, to live up to its specifications and that Essex will thus promptly remove the Properzi and related machinery and restore the site."

(36) The May 10, 1968 letter also stated:

> "Consequently, Essex has instructed Mr. Charles V. Kilburn, Essex Project Engineer, to go immediately to the Intalco Aluminum Corporation plant at Bellingham, Washington, and to begin removal of its Properzi continuous caster and related equipment.

"The Purchase and Sale Agreement between Essex and AMAX dated December 14, 1966 is premised upon the existence of this Properzi; therefore, of course, removal of the Properzi will also terminate this Agreement."

(37) Starting June 3, 1968, Essex removed the Model 8 Properzi from the Intalco plant and restored the site.

(38) As of June 21, 1968, AMAX had billed Essex $660,678.93 representing fixed charges and other amounts due on account on the Model 8 Properzi at Intalco, but Essex had paid only $207,939.98.

(39) By letter dated June 28, 1968, Essex advised Nichols:

"Essex would accept as a satisfactory settlement the releasing of Continuus, O.T.T. and Nichols from any claims arising from the Properzi operation at Bellingham, provided they agreed to the cancellation of the pending orders and returned the down payments we have made to each of them.

"If this is acceptable to the two principals, please advise and we will send you a letter of release."

(40) On July 25, 1968, Herbert C. Clough of AMAX and James Dunstan and Thomas Seifert of Essex met at the AMAX offices in New York.

(41) On July 25, 1968, the parties agreed that Essex would pay AMAX $424,898.95.

(42) On July 26, 1968, Essex mailed to AMAX a check in the amount of $424,898.95 with a covering letter. The check carried an endorsement stating: "Negotiation of

this check constitutes final settlement of all disputes arising from Bailment Lease Agreement and Purchase and Sale Agreement, both dated December 14, 1966, between Essex Wire Corporation and American Metal Climax, Inc."

(43) AMAX never cashed this check but returned it to Essex under cover letter dated January 2, 1969.

(44) On November 1, 1968, Essex, Nichols and Continuus concluded an agreement which provided:

> "In accordance with our conversations, S.p.A. Continuus is to forward to Essex the prepayment Essex made for the second Properzi Model 8 Casting Machine. This prepayment was for $185,000 and all but $8,000 was to be returned. The $8,000 covers a transformer which is to be shipped at the expense of Essex from Milano, Italy, to Essex Wire Corporation at Boonville, Indiana.
>
> "Essex will receive this refund of $176,800 (plus the transformer) in final settlement of all of its claims concerning both Properzi machines (Quotation Nos. 803 and 813), thereby releasing and discharging S.p.A. Continuus and Nichols from any responsibility for any costs or problems Essex may have had in connection with either machine, including those claimed to have occurred at the Bellingham installation and any claim that Continuus or Nichols warranted a production of 14,000 pounds per hour by the first machine."

(45) The Model 8 Properzi which Essex removed from Intalco was stored for a period of time and then installed by Essex at a new Essex facility located in Boonville, Indiana.

(46) On March 17, 1960, Essex entered into a start-up agreement with Nichols for the operation of the Model 8 Properzi at Boonville.

(47) The Model 8 Properzi, as modified by Essex, is presently in operation in Essex' Boonville plant.

Documents:

E. Each party now expects to offer at trial those documents listed and identified in Schedule A hereto, which were marked for identification at the depositions in this action. Each document marked for identification at a deposition shall bear, at trial, the same numerical marking used at the deposition, plus the prefix "P" or "D" to indicate that the document was marked for identification at the instance of plaintiff or defendant.

F. In addition, each party now expects to offer at trial those documents listed and identified in Schedule B hereto, which were not marked at the depositions in this action. Each document listed in Schedule B which is offered in evidence at trial shall bear, at trial, the same numerical marking and "P" or "D" prefix as it bears in the Schedule B listing.

G. Should any party hereafter decide to offer additional documents, prompt notice of that fact shall be given to each other party and to the Court by serving and filing a supplemental pre-trial memorandum. The supplemental pre-trial memorandum may be in a short form statement filed with the trial judge. It shall set forth a reason why the exhibit was not theretofore identified.

H. The parties agree that, for the purposes of this action only, each document listed in Schedule A:

(1) is genuine, and a copy may be used at trial in lieu of the original;

(2) shall be deemed to have been sent by the sender and received by the addressee indicated in such document; and

(3) may be received in evidence, subject only to objection on the ground of irrelevance or on the ground that it is inadmissible under the hearsay rule.

I. Except for good cause shown, no document which is not listed in Schedule A or Schedule B or in a supplemental pre-trial memorandum filed on or before the first day of trial may be offered in evidence at the trial.

J. Each party shall provide the other with a copy of each document not marked at a deposition in this action which that party lists in Schedule B hereto or in a supplemental pre-trial memorandum.

Witnesses and Depositions:

K. Plaintiff AMAX lists in Schedule C attached hereto:

(1) the live witnesses it expects to call at trial during its case in chief;

(2) the deposition testimony it expects to read into the record at trial if the deponents are not present at the trial and are beyond the subpoena powers of the Court; and

(3) summaries of the testimony expected to be given by those live witnesses and through depositions.

Pre-Trial Order

L. Defendant Essex lists in Schedule D attached hereto:

(1) the live witnesses it expects to call at trial during its case in chief;

(2) the deposition testimony it expects to read into the record at trial if the deponents are not present at the trial and are beyond the subpoena powers of the Court; and

(3) summaries of the testimony expected to be given by those live witnesses and through depositions.

M. The signing of depositions is waived.

Jury Trial:

N. The parties have agreed that this action may be tried to a jury of six members, and that a verdict may be rendered when five-sixths of the jurors constituting the jury have agreed.

Issues to be Tried:

O. The parties agree that the issues to be tried are as follows:

(1) Whether defendant breached the Lease Agreement or the Supply Contract or any specific provisions therein.

(2) Whether plaintiff breached the Lease Agreement or the Supply Contract or any specific provisions therein.

(3) Whether defendant at all times was ready, willing and able to perform all of the conditions and terms of the Lease Agreement and the Supply Contract to be performed by it.

(4) Whether plaintiff at all times was ready, willing and able to perform all of the conditions and terms of the Lease Agreement and the Supply Contract to be performed by it.

(5) Whether plaintiff has been damaged in the amount of $24,197,000, $7,737,000, $424,898.95 or in any other amount due to any action by defendant.

(6) Whether defendant breached the Lease Agreement by failing to discharge its responsibility for the "original running in" of the Properzi, by failing to give plaintiff all the technical assistance needed to run the Properzi throughout the life of the lease, and/or by wrongfully removing the Properzi from the Intalco plant in Ferndale.

(7) Whether plaintiff breached the Lease Agreement by failing to discharge its obligations to provide day-to-day maintenance of the Properzi and to make necessary repairs on the Properzi, and by failing to perform other obligations imposed upon it by said Lease Agreement.

(8) Whether plaintiff breached the Supply Contract by failing to ship and sell the quantity of aluminum rod provided therein.

(9) Whether defendant breached the Supply Contract by failing to purchase the quantity of aluminum provided therein.

(10) Whether plaintiff permitted and agreed to defendant's removal of the Properzi from plaintiff's plant in Ferndale, and made no objection to said removal or to the restoration of the site.

(11) Whether defendant had the right under all of the circumstances to remove the Properzi.

(12) Whether plaintiff has waived all claims against defendant based upon defendant's acts.

13. Whether plaintiff is estopped from maintaining this action by reason of any conduct of plaintiff and defendant's reliance thereon.

(14) Whether defendant agreed with plaintiff, on or about July 25, 1968, that defendant would pay $424,898.95 to plaintiff, and plaintiff would accept such payment, in satisfaction of all amounts theretofore billed defendant by plaintiff for hot metal supplied to the Properzi at the Intalco plant and for certain direct, indirect, fixed and variable costs incurred by plaintiff in connection with the maintenance and running in of the Properzi.

(15) Whether, on or about July 25, 1968, plaintiff agreed with defendant that it would accept the sum of $424,898.95 in final settlement of all disputes arising from the Lease Agreement and the Supply Contract.

(16) Whether plaintiff accepted defendant's check in the amount of $424,898.95 in final settlement of all disputes arising from the Lease Agreement and Supply Contract, not returning said check to defendant within a reasonable time.

(17) Whether plaintiff held defendant's check and did not cash it in order to preserve certain commercial relationships with Essex that were then in existence.

(18) Whether defendant released and discharged S.p.A. Continuus and Nichols Aluminum Company from any responsibility with respect to the Properzi at Ferndale, including responsibility for the failure of that Properzi to

live-up to its specifications, in reliance upon any conduct of plaintiff.

(19) Whether defendant had in fact determined to release Continuus and Nichols from any responsibility with respect to the Properzi in Ferndale before that time on or about July 25, 1968 when plaintiff agreed that it would accept a $424,898.95 payment from defendant.

(20) Whether plaintiff was aware and had knowledge that defendant was negotiating with Continuus and Nichols concerning defendant's claim, and nonetheless retained defendant's check without endorsing or cashing it or indicating in any way that it would return said check to defendant.

(21) Whether such action by plaintiff constituted a fraudulent misrepresentation of facts, as a result of which defendant was damaged in an amount equal to any liability of defendant to plaintiff which would have given rise to a claim by defendant against either Continuus or Nichols.

(21) Whether throughout the negotiations between plaintiff and defendant leading up to the Lease Agreement and Supply Contract, and during the relationship between defendant and plaintiff which followed, it was anticipated and understood by both parties that a joint venture between plaintiff and defendant would be undertaken to erect, operate and share in an aluminum reduction plant.

(22) Whether, in reliance upon plaintiff's assurances in regard to the erection and operation of an aluminum reduction plant jointly with defendant, defendant passed up opportunities to participate in comparable joint ventures with other parties, and whether, when plaintiff wrongfully failed to enter into a joint venture with defendants for an aluminum reduction plant, defendant's entry into the basic

aluminum industry was precluded and delayed with resulting damages to defendant.

(23) Whether defendant was damaged in an amount of $28,102,375.00 or in any other amount by reason of the plaintiff's breaches and other actions.

Dated: New York, New York
January 14, 1974

So Ordered:

/s/ Constance Baker Motley
U.S.D.J.

Filed
January 14, 1974

Consented to:

Paul, Weiss, Rifkind, Wharton & Garrison
Attorneys for Plaintiff
345 Park Avenue
New York, New York 10022
935-800

By /s/ Jay H. Topkis
(A Member of the Firm)

White & Case
Attorneys for Defendant
14 Wall Street
New York, New York 10005
732-1040

By /s/ Rayner M. Hamilton
(A Member of the Firm)

Schedule A Annexed to Pre-Trial Order

Documents Marked at Depositions

(See Opposite ☞)

SCHEDULE A

Documents Marked at Depositions

P-1. Letter from Continuus to Essex, dated July 7, 1967 confirming order of Model 8 Properzi.

P-2. Letter from Dunstan to Nichols Wire & Aluminum Co., dated June 7, 1968, re: Properzi's failure to produce at guaranteed minimum rate.

P-3. Letter from Kilburn to Morris, dated July 5, 1968, re: delayed delivery of Model 8 Properzi.

P-4. Memo from Dunstan to O'Malley, dated April 10, 1967, re: supply of aluminum.

P-4a. Memo from Dunstan to O'Malley, dated April 10, 1967, re: Aluminum.

P-5. Memo from Dunstan to O'Malley, dated September 19, 1967, re: Bellingham visit.

P-6. Memo from Dunstan to O'Malley, dated December 18, 1968, re: Aluminum reduction plant.

P-7. O'Malley notes on aluminum operation dated August 8, 1968.

P-8. Letter from Morrison to O'Malley, dated August 8, 1967, re: terms of Metal Purchase Agreement between Anaconda and Essex.

2

P-9. Seifert summary of comparative offers of Canalco, Alcoa and Amax, dated October 27, 1967.

P-10. Memo from Kilburn to Dunstan, dated December 20, 1966, re: responsibility split in Amax-Essex contract.

P-11. Memo from Dunstan to O'Malley, dated January 10, 1968, re: January 9 Amax visit, and Amax conditions for acceptance of Properzi equipment.

P-12. Letter from Dunstan to Kaufmann, dated January 22, 1968, re: conditions for acceptance of Properzi equipment.

P-13. Letter from Kaufmann to Dunstan, dated February 8, 1968, re: delay in Properzi delivery and determination of fixed costs.

P-14. Letter from Dunstan to Kaufmann, dated March 5, 1968, re: fixed costs.

P-15. Letter from Kaufmann to Dunstan, dated March 13, 1968, re: overhead costs.

P-16. Letter from Dunstan to Clough, dated April 29, 1968, re: Intalco charges.

P-17. Handwritten note of Murray re: invoices and letter from Clough to Murray, dated May 15, 1968, re: payment of undisputed invoices.

P-18. Letter from Clough to Dunstan, dated June 25, 1968, re: status of Essex account.

P-19. Letter from Dunstan to Clough, dated July 5, 1968, re: resolution of fixed charges.

P-20. Letter from Clough to Dunstan, dated July 22, 1968, re: meeting on fixed charges.

P-21. Letter from Seifert to Clough, dated July 26, 1968, covering Essex check "in full settlement" of Agreements.

P-22. Memo from Kaufmann to Kurr, dated February 23, 1968, re: possibility of cutting price of metal sold to Essex.

P-23. Memo from to Dunstan, dated December 1, 1966, re: possible purchase of receiving furnace for Properzi.

P-24. Letter from Norris to Dunstan, dated May 2, 1968, re: assignment of experienced Properzi personnel to Essex.

4

P-25. Letter from Dunstan to Morris, dated June 7, 1968, re: unacceptable output of first Properzi and possible cancellation of second Properzi.

P-26. Letter from Morris to Dunstan, dated June 25, 1968, re: possibility of trading Essex release of claims for cancellation of pending orders.

P-27. Letter from Dunstan to Morris, dated June 28, 1968, re: acceptance of suggestion in Plf. Ex. 26.

P-28. Letter from Morris to Dunstan, dated July 3, 1968, re: refusal to accept certain Essex claims, and transmittal of offer to principals.

P-29. Letter from Dunstan to Furbacher (American Metal Climax), dated May 10, 1968, re: termination of Purchase and Sale Agreement.

P-30. Minutes of Marion, Indiana meeting, May 13, 1968 authorizing shutdown of Properzi operation.

P-31. Letter from Furbacher to Dunstan, dated May 17, 1968, re: Essex failure to fulfill contractual obligations.

5

P-32. Memo from Seifert to O'Malley, dated May 21, 1968, recommending hard-line response to Plf. Ex. 31.

P-33. Letter from Dunstan to Furbacher, dated May 24, 1968, re: refusal to accept Amax claims, and scheduled removal of Properzi.

P-34. Letter from Furbacher to Essex, dated May 29, 1968, re: response to Plf. Ex. 33.

P-35. Notes on June 10, 1968 meeting between O'Malley, Furbacher and Dunstan.

P-36. Essex personal data sheet on Charles Kilburn, dated May 3, 1966.

P-37. Letter from Ilario Properzi to Essex, dated March 25, 1968, re: quotation on Model 8 Properzi.

P-38. Essex Purchase Order for Properzi, dated April 26, 1966.

P-39. Letter from Morris to Kilburn, dated April 13, 1966, re: finalization of Properzi order.

P-40. Letter from Russell (Nichols) to Kilburn, dated September 29, 1966, re: design of Properzi.

6

P- 41. Notes on October 17-18, 1966 San Francisco meeting between Amax, Hunter, Essex, Intalco, and Bechtel.

P- 42. List of conclusions of October and December meetings.

P- 43. Letter from Newman (Bechtel) to Loyer (Intalco) dated December 16, 1966, re: minutes of December 14, 1966 New York meeting.

P- 44. Notes on January 9, 1967 meeting between Intalco, Essex, Bechtel and Amax.

P- 45. List of information required from Essex, dated January 10, 1967.

P- 46. Essex Purchase Order for two aluminum furnaces from Warwick, dated January 11, 1967.

P- 47. Warwick Invoice for Plf. Ex. 46, (two aluminum furnaces) dated March 30, 1967.

P- 48. List of inventory and production records for Properzi operation; Intalco progress memos on Properzi operation, dated December 11, 1967 thru May 21, 1968.

P- 49. Letter from Murphy to Kilburn, dated February 23, 1968, enclosing proposed technical service contract between Nichols and Essex.

7

P-50. Amax proposed conditions for acceptance of Proposal, dated January 3, 1968.

P-51. Notes on January 9, 1968 meeting.

P-52. Essex Purchase Order, for operations supervisors from Nichols, dated March 17, 1969.

P-53. Letter from Alcoa to Essex, dated December 27, 1967, re: confirmation of December 26 conversion contract.

P-54. Agreement between Alcoa and Essex, for full conversion to aluminum, dated December 26, 1967.

P-55. Letter from Seifert to Kilburn, dated September 26, 1967, re: requirements for purchase of metal.

P-56. Chart of Aluminum Status as of December 1, 1967, dated December 7, 1967; also Chart of Aluminum position by month.

P-57. Chart of Aluminum Status as of January 1, 1968, dated January 10, 1968; also Chart of Aluminum position by month.

P-58. Chart of Aluminum Status as of February 1, 1968, dated February 1, 1968; also Chart of Aluminum

8

P- 59. Chart of Aluminum position by month, dated March 1, 1968.

P- 60. Chart of Aluminum Status as of May 1, 1968, dated May 1, 1968; also letter from Murray to Jim Walker.

P- 61. Chart of Required Aluminum Purchases in Pounds for 1968-1973, dated January 22, 1968.

P- 62. Memo from Murray to Thornton, dated January 24, 1968, re: Projected Aluminum Usage for 1968.

P- 63. Chart of Aluminum Usage, dated December 31, 1968.

P- 64. Memo from Murray to Thornton, dated October 14, 1968, re: Aluminum Distribution for 1969.

P- 65. Memo from Murray to O'Malley dated December 6, 1968, re: Aluminum Allocations for 1969.

P- 66. Speed Memo from E. Murray to J. Duncan, dated December 30, 1968, re: Aluminum red usage.

9

P- 67. Memo from Seifert to O'Malley, dated August 25, 1967, re: Alcoa Evansville (Warrick) Hot Metal Operation.

P- 68. Memo from Seifert to O'Malley, dated August 25, 196[illegible] re: Alcoa Evansville (Warrick) Hot Metal Operation Page 5.

P- 69. Chart of Aluminum Status as of December 1, 1968, dated December 1, 1968.

P- 70. Chart of Cost of Alcoa Aluminum, dated June 20, 1968.

P- 71. Memo from Dunstan to O'Malley, dated April 8, 1968, re: Aluminum Consumption.

D- 1. Bailment Lease Agreement, dated December 14, 1966, between Essex and American.

D- 2. Purchase Agreement, dated December 14, 1966, between American and Essex.

D- 3. Memo from Kaufman to Clough, dated April 9, 1968, re: Essex' unpaid invoice.

D- 4. Memo from Walker to Corporate Accounting, dated April 11, 1968, re: Essex invoices Nos. 365 and 376.

D- 5. Memo from Cameron to Clough, dated April 17, 1968, re: negotiations with Funk on charges to Essex for Properzi Operation.

D- 6. Memo from Cameron to Kaufman, dated March 9, 1968, re: Properzi fixed charges.

D- 7. Letter from Dunstan to Clough, dated April 29, 1968, transmitting Exhibit 8.

D- 8. Memo from Funk to Dunstan, dated April 29, 1968, re: meeting with Cameron about Properzi operating costs.

D- 9. Letter from Clough to Murray, dated May 15, 1968, re: payment of invoices for redraw.

D-10. Memo from Cameron to Clough, dated May 28, 1968, re: determination of maintenance costs.

D-11. Letter from Clough to Dunstan, dated June 25, 1968, re: summary of status of Amax invoices to Essex.

D-12. Letter from Dunstan to Clough, dated July 5, 1968, re: Essex balance and possible compromise settlement.

D-13. Letter from Clough to Dunstan, dated July 22, 1968, re: meeting on fixed charges.

D-14. Memo from DeLeo to Clough, dated July 22, 1968, re: Properzi invoice #7-30.

D-15. Teletype from Clough to Cameron, dated July 17, 1968 re: rushing of Properzi collection.

- 16. Memo from Clough to Cameron, dated August 22, 1968, re: detailed list of items being sold to Essex.

- 17. Memo from Klaus to Clough, dated August 30, 1968, re: detailed inventory of Properzi parts.

- 18. Letter from Clough to Dunstan, dated September 5, 1968, re: spare parts provided by Intalco.

- 19. Letter from Dunstan to Amax, dated May 10, 1968, re: termination of Purchase and Sale Agreement.

- 20. Telex from Nichols to Amax, dated May 16, 1968, re: offer of experienced personnel for Properzi.

- 21. Notes on meeting with Morris, April 30 on Hotel Del Prado stationary.

D- 22. Letter from Furbacher to Dunstan, dated May 17, 1968, re: Essex failure to perform contractual obligation, and inability to suspend agreement.

D- 23. Letter from Dunstan to Furbacher, dated May 24, 1968, re: refusal to accept Amax claims and scheduled removal of Properzi.

D- 24. Letter from Furbacher to Essex, dated May 29, 1968, re: response to May 24 letter and Essex inability to unilaterally terminate contract.

D- 25. Memo from Loyer to Thaure, Cameron etc.,.dated June 5, 1968, re: prevention of removal of Properzi

D- 26. Memo from Clough, dated September 23, 1968, re: restoration of premises.

D- 27. Memo from Thaure to Ferrie, dated May 20, 1968, re: mechanics of Properzi.

D- 28. Memo from M to MacDonald, dated May 21, 1968, re: Properzi mechanics.

D- 29. Memo from Blodgett to MacDonald, dated May 21, 1968, re: Properzi Progress Report.

D- 30. Memo from Friend, dated May 29, 1968, re: new Properzi cost sheets.

D- 31. Memo from Loyer to Ferrie, Thaure, etc., dated June 5, 1968, re: possible modifications to the Properzi.

D- 32. Memo from Loyer to Clough, dated June 19, 1968, re: Properzi status.

D- 33. Memo from Clough, dated May 28, 1968, re: Properzi Economics.

D- 34. Memo from Clough, dated June 21, 1968, re: Howmet and Properzi.

D- 35. Handwritten notes on approval of Amax and Essex.

D- 36. Handwritten notes on Essex investments in Properzi.

D- 37. Handwritten notes on Essex, Properzi deal.

D- 38. Memo from Clough, dated June 26, 1968, re: current position with Essex on Properzi.

D- 39. Account sheets on Properzi costs from inception to December 31, 1967.

D- 40. Memo from Clough, dated June 18, 1968, re: Properzi estimates.

D- 41. Memo from Kurr to Kaufman, dated November 29, 1967, re: Properzi operations in U.S.

D- 42. Memo from Kurr to Clough, dated March 26, 1968, re: estimation of available E.C. redraw rod.

D- 43. Memo from Kurr to Clough, dated May 17, 1968, re: Market for various wires.

D- 44. Memo from Kurr to Clough, dated June 6, 1968, re: redraw potential.

D- 45. Memo from Kurr to Clough, dated June 7, 1968, re: redraw rod potential .

D- 46. Memo from Clough, dated July 29, 1968,
re: acceptability of checks from Essex.

D- 47. Memo from Seifert to Clough, dated July 26, 1968,
re: check from Essex.

D- 48. Memo from Clough to Farley, dated October 23, 1968,
re. Essex check.

D- 49. Memo from Clough to Weil, dated October 30, 1968,
re: holding of Essex check.

D- 50. Memo from Clough to Pavan, dated January 2, 1969,
re: return of Essex check.

D- 51. Letter from Clough to Essex, dated January 2, 1969,
re: return of check.

D- 52. Memo from Clough, dated May 20, 1968,
re: General Cable Corporation

D- 53. Memo from Kurr to Loyer, dated May 10, 1968,
re: Rome Cable comments on redraw rod.

D- 54. Memo from Clough, dated May 15, 1968,
re: Rome Cable evaluation of redraw rod.

D- 55. Memo from Clough, dated May 17, 1968,
re: Rome Cable contract.

D- 56. Memo from Clough, dated June 12, 1968,
re. meeting with Rome Cable.

D- 57. Letter from Clough to Rundle (Rome Cable), dated
August 13, 1968, re: proposed meeting.

D- 58. Memo from Clough, dated June 18, 1968,
re: possible supply to Alcan.

D- 59. Letter from Detwiler to Clough, dated August 9, 1968,
re: proposal for contract.

D- 60. Letter from Detwiler to Clough, dated August 28, 1968,
re: meeting about offer.

5

D- 61. Letter from Clough to Detwiler, dated September 13, 1968, re: thoughts before meeting.

D- 62. Letter from Miller to Clough, dated September 27, 1968, re: quotation on conversion.

D- 63. Memo from Walker to Clough, dated November 18,1968, re: deal with Alcan.

D- 64. Letter from Detwiler to Clough, dated December 13, 1968, re: results of meeting in Alsales' New York office.

D- 65. Letter from Clough to Detwiler, dated January 8, 1969, re: difficulties with previous agreement.

D- 66. Memo from Clough, dated April 23, 1968, re: standards for normal operation of Properzi.

D- 67. Telex to Hansen, dated June 20, 1968, re: need for more Properzi metal.

D- 68. Telex to Cameron, dated October 23, 1966, re: first produce of Properzi.

D- 69. Wire from Cameron to Clough, dated October 23, 1968, re: first rod production.

D- 70. Memo from Clough, dated July 26, 1968, re: Intalco settlement on Properzi.

D- 71. Memo from Kurr, dated August 22, 1968, re: meeting with John Daneman of C.E. on redraw rod purchase.

D- 72. Letter from Daneman to Kurr, dated August 30, 1968, re: request for proposal on redraw rod.

D- 73. Memo from Kurr to Clough, dated May 21, 1968, re: meeting with Continental Copper and Steel.

D- 74. Memo from Walker to Clough, dated June 26, 1968, re: Phelp's Dodge as supplier of E.C. rod.

D- 75. Memo from Kurr to Clough, dated March 26, 1968, re: current redraw rod requirements.

6

D- 76. Memo from MacGregor to Aall, dated February 4, 1966, re: possible smelter with Essex.

D- 77. Memo from Furbacher to Farley, dated April 6, 1966, re: legal implications in Reduction Plant # 2.

D- 78. Letter from Farley to Piel, dated May 3, 1966, re: Essex-Amax reduction plant; Essex prospectus.

D- 79. Memo from Kaufmann to Furbacher, Farley, etc., dated April 29, 1966, re: proposal for joint venture with Essex.

D- 80. Letter from Kaufmann to O'Malley, dated May 3, 1966, re: proposed Essex -- Amax venture.

D- 81. Memo from Kaufmann, dated May 13, 1966, re: proposed Essex-Amax venture.

D- 82. Memo from Kaufmann to Furbacher, dated June 6, 1966, re: meeting with O'Malley.

D- 83. Letter from Conrad to Kaufmann, dated June 24, 1966, enclosing Progress Report: Engineering study for Amax Aluminum Reduction Plant.

D- 84. Memo from Kaufmann to MacGregor, dated July 20, 1966, re: Puerto Rican copper.

D- 85. Memo from Kaufmann to Furbacher, dated March 9, 1967. re: Wall St. Journal article on break-up of Essex-Noranda merger.

D- 86. Memo from Kaufmann to Furbacher, dated March 17, 1967, re: report on breakfast with O'Malley; Noranda and Essex-Amax deals discussed.

D- 87. Report on October 19, 1967 meeting about possible Aluminum Reduction Plant in Newfoundland.

D- 88. Letter from Kaufmann to O'Malley, dated November 8, 1967 transmitting report on Newfoundland as site for reduction plant (Dept. Ex. 87).

D- 89. December 27, 1967 report on Newfoundland Aluminum reduction plant proposal.

7

D- 90. Memo from Kaufmann to Furbacher, dated January 5, 1968, re: proposed meeting with O'Malley.

D- 91. Memo from Kaufmann to Furbacher, dated January 15, 1968, re: agenda of meeting with Essex.

D- 92. Letter from Dunstan to Kaufmann, dated March 5, 1968, re: breakdown of maintenance charges and fixed costs; trip to Newfoundland.

D- 93. Letter from Kaufmann to Dunstan, dated March 13, 1968, re: overhead charges.

D- 94. Memo from Furbacher, dated August 8, 1966, re: August 5, Essex meeting agreement.

D- 95. Letter from Kaufmann to O'Malley, dated August 8, 1966, re: draft of terms of Metal Purchase Agreement.

D- 96. Memo from Kaufmann to Farley, dated August 15, 1966, re: acceptance of Essex-Amax Properzi agreement.

D- 97. Letter from Farley to Downing, dated August 30, 1966, re: terms of Essex-Amax Properzi agreement.

D- 98. Letter from Downing to Farley, dated September 9, 1966, re: Bailment and Purchase and Sale Agreements.

D- 99. Memo from Kaufmann to Farley, dated September 12, 1966, re: draft of Properzi contracts.

D-100. Amax notes, dated September 15, on Essex-Amax Agreement.

D-101 Memo from Kaufmann, dated September 16, 1966 re: Meeting with Essex people.

D-102 Letter from Kaufmann to O'Malley, dated October 27, 1966, re: Properzi contracts.

D-103 Letter from O'Malley to Furbacher, dated December 14, 1966, re: Bailment lease and operating agreement.

D-104 Letter from Furbacher to O'Malley, dated December 21, 1966, re: Bailment lease and Purchase and Sale Agreement.

D-105 Memo from Furbacher, dated November 21, 1966, re: Properzi capital and operating costs.

D-106 Letter from Morris to Furbacher, dated November 30, 1966, re: Properzi quotations.

D-107 Amax notes on December 13 meeting with Essex.

D-108 Memo from J. J. Newman (Bechtel), dated December 16, 1966, re: coordination meeting for phase C Cast House, Bellingham.

D-109 Memo from Kaufmann to Furbacher etc, dated December 7, 1966, re: proposed meeting with Publow and Kilborn.

D-110 Letter from Kaufmann to Holmes, dated September 27, 1966, re: Cast House Agreement.

D-111 Memo from Kaufmann to Furbacher, dated August 23, 1966, re: Properzi addition to cast house.

D-112 Letter from Mayers to Furbacher, dated September 2, 1966, re: costs of Properzi installation.

D-113 Memo from Mayers to Kaufmann, dated October 6, 1966, re: specifics in Essex Properzi Agreement.

D-114 Telex from Mayers to Furbacher, dated August 17, 1966, re: engineering assistance.

D-115 Memo from Loyer to Kaufmann, dated December 5, 1966, re: Properzi maintenance.

D-116 Memo from Briggs to Hobby, Kaufmann, dated November 13, 1967, re: letter to Loyer clarifying Intalco's position in Properzi arrangement.

D- 117 Letter from Kaufmann to Loyer, dated November 30, 1967, re: clarification of Intalco's position in Properzi arrangement.

D- 118 Letter from Kilburn to Morris, dated July 5, 1967, re: delay in Properzi delivery.

D- 119 Memo from Kaufmann to Furbacher, dated July 13, 1967, re: draft of letter to Publow about agreement.

D- 120 Note from Walker to Kaufmann, dated July 14, 1967, re: sending of letter to Publow about acting on agreement.

D- 121 Memo from Hoboy to Kaufmann, dated July 26, 1967, re: Properzi process.

D- 122 Memo from Mayers to Kaufmann, dated September 6, 1967, re: expediting Properzi.

D- 123 Memo from Kaufmann, dated October 25, 1967, re: meeting with Essex on Properzi rod.

D- 124 Memo from Kaufmann, re: Marik offer on commodity rates.

D- 125 Amax conditions for acceptance of Properzi as of January 8, 1968.

D- 126 Letter from Aston to Cameron, dated January 18, 1968, re: total Properzi installation costs.

D- 127 Letter from Dunstan to Kaufmann, dated January 22, 1968, re: conditions for acceptance of Properzi, and costs involved.

D- 128 Letter from Furbacher to O'Malley, dated January 22, 1968, re: possible pricing relief on EC.

D- 129 Letter from Kaufmann to Dunstan, dated February 8, 1968 re: Properzi delay and transmitting Arrcut memo.

D- 130 Memo from Briggs to Loyer, dated March 8, 1968, re: conditions of Properzi acceptance.

D- 131 Letter from Kaufmann to Dunstan, dated March 13, 1968, re: overhead charges.

D- 132 Dunstan notes on meeting with Furbacher, Kaufmann, etc., dated March 22.

D-133 Memo from Gin to Li, dated December 27, 1967 re: progress reports on Properzi.

D-134 Memo from Bloedel to Macdonald, dated May 7, 1968, re: Properzi progress.

D-135 Memo from Furbacher to Macgregor, dated March 21, 1967, re: London meeting with B.I.C.C.

D-136 Draft and final form of Okonite contract, dated August 31, 1967 (draft)

D-137 Memo from Briggs to Furbacher, Kaufmann, dated July 27, 1967, re: Olin Properzi rod inquiry

D-138 Memo from Cameron to Macdonald, dated October 24, 1967, re: segregation of Properzi start-up costs.

D-139 Intalco conditions for Properzi acceptance, dated January 8, 1968.

D-140 Handwritten notes, dated January 8, 1968, re: Essex claims on delays.

D-141 Amax notes on January 1 meeting with Dunstan, Kilbourne on conditions for Properzi acceptance.

D-142 Properzi Cost Sheet to December 31, 1967.

D-143 Memo from Kaufmann to Arrouet, dated January 26, 1968, re: Dunstan proposal for settlement on Properzi start-up period.

D-144 Letter from Dunstan to Kaufmann, dated January 22, 1968, re: conditions for acceptance of Properzi.

D-145 Memo from Briggs to Loyer, dated March 8, 1968, re: conditions for acceptance of Properzi.

D-146 Letter from Briggs to Kaufmann, dated January 19, 1968, re: spare parts for Properzi.

D-147 Memo from Briggs to Cheatham, Catanzaro, dated January 19, 1968, re: Properzi spare parts.

D-148 Memo from Kaufmann to Briggs, dated January 22, 1968, re: correction to Ref. Ex. 147.

D-149 Notes on Properzi progress meeting April 11, 1968.

D-150 Notes on Essex terms for acceptance, dated May 1968.

D-151 Memo from Catanzaro to Briggs, dated April 22, 1968, re: Properzi Spouts.

D-152 Memo from Catanzaro to Briggs, dated April 25, 1968, re: Properzi Spouts Order.

D-153 Memo from Gilbert to Loyer, dated March 16, 1967, re: tentative Properzi Manning schedule

D-154 Memo from Li to Macdonald, dated September 16, 1967; notes on Nichols Properzi operation.

D-155 December 11, 1967 five-week progress report on Properzi from Li to Macdonald.

D-156 December 18, 1967 Progress report on Properzi from Li to Macdonald.

D-157 Memo from Loyer to Kaufmann, dated December 19, 1967, re: possibility of increased Properzi shifts

D-158 December 24, 1967 Properzi progress report from Li to Macdonald.

D-159 December 31, 1967 Properzi Progress Report from Li to Macdonald.

D-160 January 7, 1968 Properzi Progress Report from Li to Macdonald.

D-161 April 7, 1968 Properzi Progress Report from Li to Macdonald.

D-162 April 14, 1968 Properzi Progress Report from Li to Macdonald.

D-163 Memo from Macdonald to Cast House Supervisors, dated April 29, 1968, re: Properzi maintenance procedure.

D-164 April 22, 1968 Properzi Progress Report from Bloedel to Macdonald.

D-165 April 28, 1968 Properzi Progress Report from Bloedel to Macdonald.

D-166 Memo from Li to Wheeler, Catanzaro, dated May 2, 1968, re: Properzi spouts.

D-167 Memo from Catanzaro, dated May 2, 1968, re: Properzi spout problems.

D-169 Memo from Thaure to Gustafson, Macdonald etc., dated June 10, 1968, re: Meeting on Properzi

D-170 Diary of Properzi project.

D-171. Letter from Li to Russell, dated December 28, 1967, re: spare parts.

D-172. Nichols preliminary Properzi spare parts list, dated January 10, 1967.

D-173. Letter from Russell to Li, dated January 18, 1968, re: spare part numbers.

D-174. Memo from Li to MacDonald, dated December 29, 1967, re: Properzi punch list.

D-175. Li memo on Properzi operating conditions to be corrected, dated January 8, 1968.

D-176. Li draft of Properzi punch list, as of January ? , 1968.

D-177. Amax conditions for acceptance of Properzi, dated January 8, 1968, with notes.

D-178. Li draft of tentative Properzi practice schedule, dated January 10, 1968.

D-179. Memo from Li to Kilburn, dated January 19, 1968, re. Weeks difficulties with Properzi.

D-180. Notes on major Properzi items to be corrected.

D-181. Note from Li to Norm (?), dated April 17, 1968, re: shipment of new spouts.

D- 182. Intalco Lab reports on wire samples, dated from March 29, 1968 to May 17, 1968.

D- 183. Memo from Cheatham to Cameron, Catanzaro, etc., dated January 17, 1968, re: spare parts list.

D- 184. Letter from Kilburn to Cheatham, dated January 17, 1968 enclosing Properzi drawings.

D- 185. Intalco conditions for acceptance of Properzi, dated January 5, 1968.

D- 186. Letter from Kaufmann to Kilburn etc., dated September 28, 1966, re: agenda for San Francisco meeting.

D- 187. Memo from Perrie to Loyer, dated October 19, 1966, re: results of San Francisco meeting.

D- 188. October 17, 1966 figures on Properzi.

D- 189 Letter from Raiford (Nichols) to Kilburn, dated May 17, 1968, enclosing operational recommendations and notes on spouts.

D- 190. Letter from Murphy to Kilburn, dated February 23, 1968, re: proposal for technical service contract.

D- 191. Letter from Murphy to Fox, dated March 18, 1968, re: record of Fox reports on Intalco.

D- 192. Letter from Morris to Dunstan, dated May 2, 1968, re: contract on assignment of Nichols personnel to Properzi.

D- 193. Telex from Morris to Amax, dated May 16, 1968, re: offer of personnel.

D- 194. Letter from Raiford to Kilburn, dated May 23, 1968, re: spouts and adapters.

D- 195. Letter from Morris to Essex, dated March 25, 1966, re: quotation on Properzi.

D- 196. Telegram from Morris to Contimius, dated April 13, 1966, re: Essex order.

D- 197. Letter from Morris to Kilburn, dated April 13, 1966, re: order of Properzi.

D- 198. Letter from Gottschalk to Morris, dated April 26, 1966, re: formal purchase order.

D- 199. Letter from Mario Properzi to Morris, dated January 5, 1966, re: figures for offering Kaiser.

D- 200. Letter from Mario Properzi to Russell, dated March 3, 1966, re: differences between Properzi models.

D- 201 Properzi's on order with revised shipping dates.

D- 202 Morris notes on visit to Essex, dated May 18, 1966.

D- 203 Telegram from Morris to Continuus, dated August 5, 1966, re: general layout drawing.

D- 204 Letter from Morris to Donini, dated September 8, 1966, re: layout information.

D- 205 Letter from Kilburn to Morris, dated October 14, 1966, re: Properzi drawings.

D- 206 Letter from Morris to Kilburn, dated October 17, 1966, re: Properzi drawings.

D- 207 Letter from Morris to Ilario Properzi, dated October 17, 1966, re: drawings.

D- 208 Letter from Properzi to Kilburn, dated October 27, 1968, re: unavailability of drawings.

D- 209 Letter from Morris to Kilburn, dated November 10, 1966, re: remaining questions.

D- 210 Letter from Morris to Donini, dated November 10, 1966, re: Essex questions.

D- 211 Letter from Russell to Properzi, dated November 11, 1966, re: engineering of Properzi.

D- 212 Letter from Morris to Donini, dated November 14, 1966, re: complete drawings.

D- 213 Letter from Russell to Kilburn, dated November 22, 1966, re: two drawings received.

D- 214 Letter from Russell to Morris, dated December 2, 1966, re: meeting with Continuus.

D- 215 Letter from Russell to Donini, dated August 8, 1967, re: manuals on Properzi.

D- 216 Cable from Russell to Continuus, dated September 5, 1967, re: complete set of drawings.

D- 217 Letter from Morris to Donini, dated October 24, 1967, re: drawings.

D- 218 Letter from Fox to Kilburn, dated November 30, 1967, re: list of Properzi drawings.

D- 219 Letter from Fox to Kilburn, dated January 26, 1968, re: Sepias being sent from Continuus.

D- 220 Letter from Russell to Kilburn, dated February 1, 1968, transmitting omitted drawing.

D- 221 Letter from Russell to Kilburn, dated February 6, 1968, re: drawings.

D- 222 Letter from Russell to Kilburn, dated April 30, 1968, re: completed set of drawings.

D- 223 Letter from Morris to Donini, dated June 14, 1966, re: request for additional information on Properzi.

D- 224 Letter from Morris to Kilburn, dated January 30, 1967, re: quotation on spare parts.

D- 225 Letter from Russell to Properzi, dated March 9, 1967, re: essex Purchase Order.

D- 226 Letter from Morris to Properzi, dated July 26, 1967, re: late deliveries.

D- 227 Cable from Morris to Continuus, dated August 2, 1967 re: date of shipment of spare parts.

D- 228 Letter from Morris to Gottschalk, dated August 2, 1967, re: cable to Continuus.

D- 229 Letter from Russell to Kilburn, dated August 4, 1967, re: receipt of spare parts.

D- 230 Letter from Russell to Kilburn, dated August 10, 1967, re: delivery date of Properzi.

D- 231 Letter from Russell to Kilburn, dated September 7, 1967, re: spare parts shipment.

D- 232 Telegram from Morris to Kilburn, dated December 13, 1967, re: shipment of spare parts.

D- 233 Letter from Russell to Kilburn, dated January 11, 1968, re: recommended list of spare parts.

D- 234 Letter from Russell to Donini, dated January 15, 1968, re: identifying parts.

D- 235 Letter from Morris to Donini, dated January 17, 1968, re: need for spare parts manual.

D- 236 Letter from Morris to Gottschalk, dated March 15 1967, re: shipment of casting and rolling equipment and letter of credit.

D- 237 Letter from Morris to Kilburn, dated May 29, 1967, re [illegible]ipment of Properzi equipment.

D- [illegible]8 Letter from Morris to Kilburn, dated June 9, 1967, re: shipment of Model 8.

D- 239 Letter from Russel to Kilburn, dated June 20, 1967, re: report from [illegible].

D- 240 Cable from Morris to Continuus, dated June 29, 1967, re: need to ship Essex' caster immediately.

D- 241 Memo of telephone conversation from Nichols(?) to Kilburn, dated July 5, 1967, re: progress on Properzi.

D- 242 Letter from Morris to Properzi, dated July 6, 1967, re: delay in delivery of Model 8.

D- 243 Letter from Morris to Properzi, dated July 10, 1967, re: Essex attitude toward delay.

D- 244 Letter from Morris to Kilburn, dated July 10, 1967, re: July 5 letter.

D- 245 Telegram from Continuus to Kilburn, re: imminent shipment of Properzi.

D- 246 Letter from Morris to Kilburn, dated July 26, 1967, re: processing of machine for shipment.

D- 247 Letter from Morris to Milton Nichols, dated August 29, 1967, re: arrival of some equipment.

D-248 Letter from Russell to Kilburn, dated September 11, 1967, re: confirmation of initial shipment.

D-249 Letter from Russell to Kilburn, dated September 18, 1967, re: equipment not supplied by Continuus.

D-250 Letter from Russell to Properzi, dated November 30, 1967, re: functioning of various Properzi set-ups.

D-251 Letter from Properzi to Russell, dated December 5, 1967, re: correction of General Cable Properzi ring moulds.

D-252 Letter from Russell to Properzi, dated December 14, 1967, re: need for prompt correction of Properzi faults.

D-253 Memo from Russell to Morris, dated January 8, 1968, re: bushing and new moulds.

D-254 Letter from Russell to Kilburn, dated January 16, 1968, re: new moulds.

D-255 Letter from Russell to Kilburn, dated February 19, 1968, re: water valve.

D-256 Letter from Raiford to Properzi, dated August 9, 1968, re: comments on operating instructions.

D-257 and 258 Letter from Cheatham to Morris, dated March 13, 1967, and reply from Morris, dated March 16, 1967, re: visit of Intalco maintenance men to Davenport plant.

D-259 Letter from MacDonald to Fox, dated August 24, 1967, re: visit of Intalco personnel.

D- 260. Letter from Morris to Kilburn, dated January 16, 1968, re: coiler.

D- 261. Letter from Murphy to Kilburn, dated , , re: proposal for start-up service contact.

D- 262. Letter from Russell to Donini, dated March 7, 1968, re: Essex claim against Contimius.

D- 263. Letter from Morris to Kilburn, dated May 10, 1967, re: order for second Properzi.

D- 264. Letter from Morris to Kilburn, dated June 6, 1967, re: Quotation on Properzi.

D- 265. Letter from Russell to Kilburn, dated January 17, 1968, re: delivery of second coiler.

D- 266. Letter from Russell to Kilburn, dated January 23, 1968, re: second coiler.

D- 267. Letter from Dunstan to Morris, dated June 7, 1968, re: failure of Properzi.

D- 268. Memo of Nichols phone call to Donini, dated June 10, 1968, re: Essex refusal to accept second Properzi.

D- 269. Letter from Morris to Dunstan, dated June 12, 1968, re: attempt to contact.

D-270. Notes on Morris' (?) attempts to contact Dunstan, June 13-15, 1968.

D-271. Note on Kilburn call, dated June 14, 1968.

D-272. Memo of Morris phone call from Dunstan, dated June 19, 1968, re: proposed meeting.

D-273. Nichols notes on meeting with Dunstan, Kilburn, dated June 21, 1968.

D-274. Letter from Dunstan to Morris, dated June 25, 1968, re: notice of cancellation of order.

D-275. Letter from Morris to Dunstan, dated June 25, 1968, re: recommendation of settlement.

D- 276 Letter from Dunstan to Morris, dated June 28, 1968, re: acceptable settlement terms.

D- 277. Letter from Morris to Dunstan, dated July 3, 1968, re: Essex right to cancel.

D- 278. Telex from Corratte to Morris, dated July 8, 1968, re: refusal to accept Essex cancellation.

D- 279. Telex from Nichols to Dunstan, dated July 9, 1968, re: Corratte telex.

D- 280. Telegram from Morris to Donini, dated July 15, 1968, re: meeting in Chicago.

D- 281. Memo of phone call from Donini to Nichols, dated July 17, 1968, re: offer to Essex.

D- 282. Telegram from Morris to Dunstan, dated July 22, 1968, re: deferment of shipment.

D- 283. Telegram from Dunstan to Corratte, dated , re: new letter of credit.

D- 284. Telegram from Morris to Dunstan, dated July 24, 1968, re: cable from O.T.T.

D- 285. Telegram from Donini to Dunstan, dated July 26, 1968, re: cancellation of order effective.

D- 286 Telex from Morris to Dunstan, dated July 26, 1968, re: cable from O.T.T.

D- 287. Telexes from Dunstan, dated July 27, 1968 to Corratte and Nichols, re: letter of credit for settlement.

D- 288. Telex from Morris to Dunstan, dated July 30, 1968, re: cable from O.T.T. about resale of coiler.

D- 289. Telex from Morris to Dunstan, dated July 31, 1968, transmitting O.T.T. Telex re: storage of coiler.

D- 290. Memo from Prendergrast to De la Cerda, dated August 9, 1968, re: storage of coiler.

D- 291. Memo of phone call by Dunstan to Nichols, dated August 24, 1968, re: letters of release.

D- 292. Letter from Dunstan to Morris, dated September 6, 1968, re: refund to Essex.

D- 293. Memo from Prendergast to Dunstan, dated September 19, 1968, re: O.T.T. letter of credit.

D- 294. Telex from Morris to Centimius, dated September 23, 1968, re: legal releases.

D- 295. Letter from Dunstan to Morris, dated September 18, 1968, re: $800 correction.

D- 296. Letter from Morris to Dunstan, dated September 23, 1968, re: misc. matters relating to settlement.

D- 297. Letter from Morris to Dunstan, dated September 26, 1968, re: redraft of settlement.

D- 298. Letter from Dunstan to Morris, dated October 14, 1968, re: final settlement.

D- 299. Letter from Morris to Dunstan, dated October 22, 1968, re: signing of release letter.

D- 300. Letter from Morris to Properzi, dated October 22, 1968, re: letter of release.

D- 301. Letter from Properzi to Morris, dated October 29, 1968, re: letter of release.

D- 302. Memo from Dunstan to Downing, dated October 28, 1968, re: terms of settlement.

D- 303. Letter from Morris to Dunstan, dated November 4, 1968, re: letter of release, and shipment of transformer.

D- 304. Letter from Dunstan to Morris, dated October 14, 1968, constituting letter of release.

D- 305. Letter from Downing to Office Technique Des Trefelis, dated November 6, 1968, re: coiler.

D- 306. Letter from Corratic to Downing, dated November 15, 1968, re: agreement about coiler.

D- 307. Memo from Prendergast to Lunston, dated November 26, 1968, re: closing of Continua file.

D- 308. Notes on time spent at Intalco after April 20, 1967.

D- 309. Notes dated November 17-21 on Properzi performance.

D- 310. Memo from Baenziger to Kaufmann, dated March 25, 1966 re: Essex Project.

D- 311. Draft of Bailment Lease Agreement, dated September 27, 1966, between Essex Wire Corporation and American Metal Climax, Inc.

D- 312. Letter from Kaufmann to O'Malley, dated October 4, 1966, re: draft of Properzi Agreement.

D- 313. Letter from Kaufmann to Stevens, dated March 21, 1967, re: payment for the foundations of the Properzi.

D- 314. Memo from Kilburn to O'Malley dated re: financial responsibility for the installation and initial operation of the Properzi at Intalco.

D- 315. Letter from Kaufmann to Publow, dated March 22, 1967, re: comments on Kilburn's list and the Bechtel problem.

D- 316. Memo from Kaufmann to Hoboy, dated October 6, 1967, re: definition of when the Properzi is operating normally.

D- 317. Memo from Hoboy to Kaufmann, dated October 24, 1967, re: Properzi Start-up.

D- 318. Memo from Kaufmann to File dated October 25, 1967 re: When Essex' Properzi at Intalco will be considered to be "operating normally".

D- 319. Memo from Dennis Arrowsmith to Kaufmann dated February 5, 1968 re: Properzi at Intalco.

Schedule B Annexed to Pre-Trial Order

Documents Not Marked at Depositions

(See Opposite ☞)

SCHEDULE B

Documents Not Marked at Depositions

D400	Letter to R.H. Publow from J.J. Newman of Bechtel Corporation, dated December 12, 1967.
D401	Letter to C.V. Kilburn from C.V. Maynard of Bechtel Corporation, dated August 21, 1967.
D402	Invoice to Essex (Attn. C.V. Kilburn) from Snelson, Inc. in amount of $12,304.58.
D403	Job costing sheet (No. 11) in amount of $8,365.95.
D404	Job costing sheet (No. 10).
D405	Job costing sheet (No. 9).
D406	Job costing sheet (No. 8).
D407	Job costing sheet (No. 7).
D408	Job costing sheet (No. 6).
D409	Job costing sheet (No. 5).
D410	Job costing sheet (No. 4).
D411	Job costing sheet (No. 3).
D412	Job costing sheet (No. 2).
D413	Job costing sheet (No. 1).
D414	Job costing sheet (No. 2) - handwritten.
D415	Job costing sheet (No. 1) - handwritten.
D416	Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $39.84.
D417	Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $56.18.
D418	Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $21.39.
D419	Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $32.27.
D420	Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $25.17.
D421	Invoices nos. 7653 and 7654 from Burlington Electric to Snelson, Inc., dated August 17, 1967.
D422	Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $120.06.

2

D423 Job costing sheet, dated August 19, 1967.

D424 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $50.52.

D425 Invoice from Morse Hardware Company to Snelson, Inc. - $2.97.

D426 Invoice from Palmer Supply Company to Snelson, Inc. - $52.58.

D427 Invoice from Morse Hardware Company to Snelson, Inc. - $.36.

D428 Invoice from Morse Hardware Company to Snelson, Inc. - $4.00.

D429 Invoice from Morse Hardware Company to Snelson, Inc. - $20.72.

D430 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $38.15.

D431 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $20.87.

D432 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $19.81.

D433 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $85.25.

D434 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $4.80.

D435 Invoice from Burlington Electric to Snelson, Inc. - $2451.69.

D436 Page 1 of itemization supporting D435.

D437 Page 2 of itemization supporting D435.

D438 Page 3 of itemization supporting D435.

D439 Page 4 of mization supporting D435.

D440 Itemization of labor charges included in D435.

D441 Invoice from Skagit Corporation to Snelson, Inc. - $6.00.

D442 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $63.99.

D443 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $9.12.

D444 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $4.11.

D445 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $11.52.

D446 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $15.12.

3

D447 Invoice from Bellingham Supply, Inc. to Snelson, Inc. - $3.94.

D448 Copy of Essex check to J.W. Copeland Yards in amount of $122.40.

D449 Invoice from Snelson, Inc. to Essex, dated June 30, 1967 - $12,372.00.

D450 Invoice from Snelson, Inc. to Essex, dated August 25, 1967- $27,837.00.

D451 Invoice from Snelson, Inc. to Essex, dated September 27, 1967 - $15,465.00.

D452 Invoice from Snelson, Inc. to Essex, dated October 16, 1967 - $6,186.00.

D453 Purchase order from Essex to Snelson, Inc., dated May 25, 1967.

D454 Invoice from Snelson, Inc. to Essex, dated October 16, 1967 - $120.00.

D455 Invoice from Snelson, Inc. to Essex, dated August 8, 1967 - $680.00.

D456 Purchase order from Essex to Snelson, Inc., dated July 31, 1967.

D457 Invoice from Snelson, Inc. to Essex, dated March 4, 1968 - $3,500.00.

D458 Purchase order from Essex to Snelson, Inc., dated February 8, 1968.

D459 Invoice from Snelson, Inc. to Essex, dated March 27, 1968 - $782.93.

D460 Invoice from Snelson, Inc. to Essex, dated July 3, 1967 - $1,232.07.

D461 Purchase order from Essex to Snelson, Inc., dated June 20, 1967.

D462 Invoice from Snelson, Inc. to Essex, dated July 3, 1967 - $922.04.

D463 Purchase order from Essex to Snelson, Inc., dated June 20, 1967.

D464 Invoice from Snelson, Inc. to Essex, dated July 24, 1967 - $1,434.44.

D465 Purchase order from Essex to Snelson, Inc., dated July 11, 1967.

D466 Invoice from Snelson, Inc. to Essex, dated October 16, 1967 - $3,428.00.

D467 Purchase order from Essex to Snelson, Inc., dated July 6, 1967.

4

D468 Freight bill from O.N.C. Motor Freight System to Essex (No. 5249528) - $53.28.

D469 Freight bill from O.N.C. Motor Freight System to Essex (No. 5880328) - $110.34.

D470 Freight bill from O.N.C. Motor Freight System to Essex (No. 8518399) - $10.84.

D471 Freight bill from O.N.C. Motor Freight System to Essex (No. 5610411) - $49.39.

D472 Invoice from Emery Air Freight Corporation to Essex (No. DTT 26606) - $31.69.

D473 Freight bill from Mitchell Bros. Truck Lines to Essex (No. 2-23579) - $126.56.

D474 Freight bill from Mitchell Bros. Truck Lines to Essex (No. 2-23276) - $164.11.

D475 Freight bill from Mitchell Bros. Truck Lines to Essex (No. 2-23580) - $96.46.

D476 Freight bill from Mitchell Bros. Truck Lines to Essex (No. 2-23064) - $278.22.

D477 Invoice from Mitchell Bros. Truck Lines to Essex (No. 9-94455) - $17.60.

D478 Freight bill from Mitchell Bros. Truck Lines to Essex (Correction No. 9171) - $58.41.

D479 Freight bill from Mitchell Bros. Truck Lines to Essex (Correction No. 9170) - $44.52.

D480 Freight bill from Mitchell Bros. Truck Lines to Essex (Correction No. 9169) - $35.07.

D481 Freight bill from O.N.C. Motor Freight System to Essex (No. 5051844) - $118.69.

D482 Freight bill from Consolidated Freightways to Essex (No. 915-352589) - $69.06.

D483 Corrected freight bill from Consolidated Freightways to Essex - $13.80.

D484 Bill from Seattle - Tacoma Air Taxi to Essex - $27.95.

D485 Shipping memorandum from Essex to Consolidated Freightways, July 1, 1968.

D486 Shipping memorandum from Essex to Consolidated Freightways, July 2, 1968.

D487 Shipping memorandum from Essex to Consolidated Freightways, July 2, 1968.

D488 Shipping order from Essex to Consolidated Freightways, July 3, 1968.

D489 Shipping memorandum from Essex to Consolidated Freightways, July 3, 1968.

D490 Shipping memorandum from Essex to Consolidated Freightways, July 8, 1968.

D491 Shipping memorandum from Essex to Consolidated Freightways, July 9, 1968.

D492 Shipping memorandum from Essex to Consolidated Freightways, July 10, 1968.

D493 Shipping memorandum from Essex to Consolidated Freightways, July 11, 1968.

D494 Shipping memorandum from Essex to Consolidated Freightways, July 11, 1968.

D495 Shipping memorandum from Essex to Consolidated Freightways, July 12, 1968.

D496 Shipping memorandum from Essex to Consolidated Freightways, July 15, 1968.

D497 Shipping memorandum from Essex to Consolidated Freightways, July 18, 1968.

D498 Shipping memorandum from Essex to Great Northern Ry., July 25, 1968.

D499 Shipping memorandum from Essex to Great Northern Ry., July 25, 1968.

D500 Shipping memorandum from Essex to Consolidated Freightways, July 26, 1968 .

D501 Handwritten notes on shipping data.

D502 Handwritten notes on shipping loading on 7/11/68 and 7/12/68.

D503 Handwritten notes on shipping loading on 7/1/68 and 7/2/68.

D504 Handwritten notes on shipping load contents.

D505 Second page of D504.

D506 Handwritten note, dated June 27, 1968.

D507 Handwritten notes on shipping load contents.

D508 Second page of D507.

D509 Handwritten notes concerning removal of Properzi.

D510 Purchase order from Essex to Lemmons & Co., Inc., August 26, 1968.

D511 Page 2 of invoice from Lemmons & Company, Inc. to Essex, August 1, 1968 - $1,072.75.

D512 Page 1 of D511.

D513 Invoice from Lemmons & Company, Inc. to Essex, November 4, 1968 - $141.24.

D514 Copy of payment voucher and check from Essex to Consolidated Freightways, September 24, 1968 - $15,235.92.

D515 Invoice from Consolidated Freightways to Essex - $1,803.20. [No. 290-311012, July 1, 1968].

D516 Invoice from Consolidated Freightways to Essex - (Attached to D515).

D517 Invoice from Consolidated Freightways to Essex - (Attached to D515).

D518 Corrected freight bill from Consolidated Freightways to Essex - $1,582.90. [No. 290-460715, July 2, 1968].

D519 Invoice from Consolidated Freightways to Essex - $1,568.00. [No. 290-335210, July 9, 1968].

D520 Invoice from Consolidated Freightways to Essex - (Attached to D519).

D521 Invoice from Consolidated Freightways to Essex - $1,568.00. [No. 290-335212, July 9, 1968].

D522 Invoice from Consolidated Freightways to Essex - (Attached to D521).

D523 Invoice from Consolidated Freightways to Essex - $1,568.00. [No. 290-335211, July 9, 1968].

D524 Invoice from Consolidated Freightways to Essex - (Attached to D523).

D525 Invoice from Consolidated Freightways to Essex - $1,568.00. [No. 290-335214, July 10, 1968].

D526 Invoice from Consolidated Freightways to Essex - (Attached to D525).

D527 Invoice from Consolidated Freightways to Essex - $1,568.00 corrected to $1,359.52. [No. 290-335213, July 10, 1968].

D528 Invoice from Consolidated Freightways to Essex - (Attached to D527).

D529 Invoice from Consolidated Freightways to Essex - $153.66. [No. 290-335215, July 11, 1968].

D530 Invoice from Consolidated Freightways to Essex - (Attached to D529).

D531 Invoice from Consolidated Freightways to Essex - (Attached to D529).

D532 Invoice from Consolidated Freightways to Essex - $1,005.60. [No. 290-328890, July 18, 1968].

D533 Invoice from Consolidated Freightways to Essex - (Attached to D532).

D534 Copy of payment voucher and check from Essex to Southern Railway Co., September 16, 1968 - $2,771.01.

D535 Freight bill from Southern Railway Co. to Essex, September 4, 1968 - $2,771.01.

D536 Copy of payment voucher and check from Essex to Atchison, Topeka & Santa Fe Ry. Co., September 19, 1968 - $4,159.05.

D537 Freight bill from Atchison, Topeka & Santa Fe Ry. Co., to Essex, September 13, 1968 - $2,574.74.

D538 Bill from Atchison, Topeka & Santa Fe Ry. Co. to Essex - September 13, 1968 - $2,574.74.

D539 Voucher for reimbursement of Publow expense, $314.63, dated 5/17/67.

D540 Publow Expense Report, dated 4/29/67.

D541 Receipt from Hotel Governor Clinton, $37.31.

D542 Receipt from Albert Pick Motel, $12.54.

D543 Publow Expense Report, 4/22/67.

D544 Receipt from Avis Rent-A-Car, $33.20.

D545 Receipt from Bellingham Traval Lodge, $7.82.

D546 Receipt from Holiday Inn, $10.81.

D547 Voucher for reimbursement of Publow expenses, $136.54, dated 1/11/68.

D548 Publow Expense Report, dated Nov. 4, 1967.

D549 Receipt from Holiday Inn, $9.78.

D550 Receipt from County Club of Paducah, $92.55.

D551 Receipt from County Club of Paducah, $54.15.

D552 Publow Expense Report, 12/23/67.

D553 Receipt from Holiday Inn, $39.07.

D554 Receipt from Trave Lodge, $9.22.

D555 Check stub-reimbursement of Kilburn, 10/26/68, $23.00.

D556 Kilburn Expense Report, 10/26/68, $23.00.

D557 Check stub-reimbursement of Kilburn, 10/19/68, $125.76.

D558 Kilburn Expense Report, 10/19/68, $125.76.

D559 Check stub-reimbursement of Kilburn, 10/12/68, $130.71.

D560 Kilburn Expense Report, 10/12/68, $130.71.

D561 Check stub-reimbursement of Kilburn, 10/5/68, $130.71.

D562 Kilburn Expense Report, 10/5/68, $130.71.

D563 Check stub-reimbursement of Kilburn, 9/28/68, $131.21.

D564 Kilburn Expense Report, 9/28/68, $131.21.

D565 Check stub-reimbursement of Kilburn, 9/24/68, $131.61.

D566 Kilburn Expense Report, 9/21/68, $131.61.

D567 Check stub-reimbursement of Kilburn, 9/14/68, $122.32.

D568 Kilburn Expense Report, 9/14/68, $122.32

D569 Check stub-reimbursement of Kilburn, 8/31/68, $111.27.

D570 Kilburn Expense Report, 8/31/68, $111.27.

D571 Check stub-reimbursement of Kilburn, 8/24/68, $129.20.

D572 Kilburn Expense Report, 8/24/68, $129.20.

D573 Check stub-reimbursement of Kilburn, 8/17/68, $112.86

D574 Kilburn Expense Report, 8/17/68, $112.86.

D575 Check stub-reimbursement of Kilburn, 8/10/68, $106.47.

D576 Kilburn Expense Report, 8/10/68, $106.47.

D577 Check stub-reimbursement of Kilburn, 8/3/68, $136.61.

D578 Kilburn Expense Report, 8/3/68, $136.61.

D579 Check stub-reimbursement of Kilburn, 7/27/68, $84.86.

D580 Kilburn Expense Report, 7/27/68, $84.86.

D581 Check stub-reimbursement of Kilburn, 7/20/68, $110.31.

D582 Kilburn Expense Report, 7/20/68, $110.31.

D583 Check stub-reimbursement of Kilburn, 7/13/68, $108.50.

D584 Kilburn Expense Report, 7/13/68, $108.50.

D585 Check stub-reimbursement of Kilburn, 7/6/68, $68.40.

D586 Kilburn Expense Report, 7/6/68, $68.40.

D587 Check stub-reimbursement of Kilburn, 6/29/68, $142.91.

D588 Kilburn Expense Report, 6/29/68, $142.91.

D589 Check stub-reimbursement of Kilburn, 6/15/68, $116.85.

D590 Kilburn Expense Report, 6/15/68, $116.85.

D591 Check stub-reimbursement of Kilburn, 6/8/68, $40.81.

D592 Kilburn Expense Report, 6/8/68, $40.81.

D593 Check stub-reimbursement of Kilburn, 5/25/68, $102.90.

D594 Kilburn Expense Report, 5/25/68, $102.90.

D595 Check stub-reimbursement of Kilburn, 5/18/68, $66.01.

D596 Kilburn Expense Report, 5/18/68, $66.01.

D597 Check stub-reimbursement of Kilburn, 5/11/68, $100.28.

D598 Kilburn Expense Report, 5/11/68, $100.28.

D599 Check stub-reimbursement of Kilburn, 5/4/68, $91.03.

D600 Kilburn Expense Report, 5/4/68, $91.03.

D601 Check stub-reimbursement of Kilburn, 4/27/68, $135.50.

D602 Kilburn Expense Report, 4/27/68, $135.50.

D603 Check stub-reimbursement of Kilburn, 4/20/68, $149.17.

D604 Kilburn Expense Report, 4/20/68, $149.17.

D605 Check stub-reimbursement of Kilburn, 4/13/68, $248.51.

D606 Kilburn Expense Report, 4/13/68, $248.51.

D607 Check stub-reimbursement of Kilburn, 4/6/68, $126.69.

D608 Kilburn Expense Report, 4/6/68, $126.69.

D609 Check stub-reimbursement of Kilburn, 3/30/68, $101.23

D610 Kilburn Expense Report, 3/30/68, $101.23.

D611 Check stub-reimbursement of Kilburn, 3/23/68, $89.88.

D612 Kilburn Expense Report, 3/23/68, $89.88.

D613 Check stub-reimbursement of Kilburn, 3/16/68, $115.40

D614 Kilburn Expense Report, 3/16/68, $115.40.

D615 Check stub-reimbursement of Kilburn, 3/9/68, $145.78.

D616 Kilburn Expense Report, 3/9/68, $145.78.

D617 Check stub-reimbursement of Kilburn, 3/2/68, $ 114.16.

D618 Kilburn Expense Report, 3/2/68, $114.16.

D619 Check stub-reimbursement of Kilburn, 2/24/68, $181.53.

D620 Kilburn Expense Report, 2/24/68, $181.53.

D621 Check stub-reimbursement of Kilburn, 2/17/68, $122.46.

D622 Kilburn Expense Report, 2/17/68, $122.46.

D623 Check stub-reimbursement of Kilburn, 2/10/68, $247.64.

D624 Kilburn Expense Report, 2/10/68, $247.64.

D625 Check stub-reimbursement of Kilburn, 2/3/68, $125.89.

D626 Kilburn Expense Report, 2/3/68, $126.14.

D627 Check stub-reimbursement of Kilburn, 1/27/68, $38.55.

D628 Kilburn Expense Report, 1/27/68, $38.55.

D629 Check stub-reimbursement of Kilburn, 1/13/68 and 1/20/68, $217.41.

D630 Kilburn Expense Report, 1/20/68, $95.23.

D631 Kilburn Expense Report, 1/13/68, $122.58.

D632 Check stub-reimbursement of Kilburn, 12/23/67, $124.36.

D633 Kilburn Expense Report, 12/23/67, $124.73.

D634 Check stub-reimbursement of Kilburn, 12/16/67, $85.53.

D635 Kilburn Expense Report, 12/16/67, $85.53.

D636 Check stub-reimbursement of Kilburn, 12/9/67, $231.17.

D637 Kilburn Expense Report, 12/9/67, $231.17

D638 Check stub-reimbursement of Kilburn, 12/2/67, $127.70.

D639 Kilburn Expense Report, 12/2/67, $127.73.

D640 Check stub-reimbursement of Kilburn, 11/18/67, $365.62.

D641 Kilburn Expense Report, 11/18/67, $365.62.

D642 Check stub-reimbursement of Kilburn, 11/4/67, $93.15.

D643 Kilburn Expense Report, 11/5/67, $93.15.

D644 Check stub-reimbursement of Kilburn, 11/11/67, $93.60.

D645 Kilburn Expense Report, 11/11/67, $93.10.

D646 Check stub-reimbursement of Kilburn, 10/28/67, $115.40.

D647 Kilburn Expense Report, 10/28/67, $115.40.

D648 Check stub-reimbursement of Kilburn, 10/21/67, $443.72.

D649 Kilburn Expense Report, 10/21/67, $443.72.

D650 Check stub-reimbursement of Kilburn, 10/14/67, $115.79.

D651 Kilburn Expense Report, 10/14/67, $115.79.

D652 Check stub-reimbursement of Kilburn, 10/7/67, $115.74.

D653 Kilburn Expense Report, 10/7/67, $115.74.

D654 Check stub-reimbursement of Kilburn, 9/30/67, $114.24.

D655 Kilburn Expense Report, 9/30/67, $114.24.

D656 Check stub-reimbursement of Kilburn, 9/23/67, $399.74.

D657 Memo by Kilburn re expenses, 9/25/67.

D658 Kilburn Expense Report, 9/23/67, $399.74.

D659 Check stub-reimbursement of Kilburn, 9/16/67, $243.64.

D660 Kilburn Expense Report, 9/16/67, $242.24.

D661 Check stub-reimbursement of Kilburn, 9/9/67, $105.85.

D662 Kilburn Expense Report, 9/9/67, $105.85.

D663 Check stub-reimbursement of Kilburn, 9/2/67, $80.91.

D664 Kilburn Expense Report, 9/2/67, $80.91.

D665 Check stub-reimbursement of Kilburn, 8/26/67, $172.08.

D666 Kilburn Expense Report, 8/26/67, $172.08.

D667 Check stub-reimbursement of Kilburn, 8/19/67, $149.63.

D668 Kilburn Expense Report, 8/19/67, $149.63.

D669 Check stub-reimbursement of Kilburn, 8/12/67, $250.00.

D670 Kilburn Expense Report, 8/5 and 8/12/67; $350.00.

D671 Check stub-reimbursement of Kilburn, 7/29/67, $300.00.

D672 Kilburn Expense Report, 7/29/67, $300.00.

D673 Check stub-reimbursement of Kilburn, 6/17/67, $313.29.

D674 Kilburn Expense Report, 6/17/67, $313.29.

D675 Check stub-reimbursement of Kilburn, 6/24/67, $445.00.

D676 Kilburn Expense Report, 6/24/67, $445.00.

D677 Check stub-reimbursement of Kilburn, 6/10/67, $50.16.

D678 Kilburn Expense Report, 6/10/67, $50.16.

D679 Check stub-reimbursement of Kilburn, 6/3/67, $37.00.

D680 Kilburn Expense Report, 6/3/67, $37.00.

D681 Check stub-reimbursement of Kilburn, 5/27/67, $113.90.

D682 Kilburn Expense Report, 5/27/67, $113.90.

D683 Check stub-reimbursement of Kilburn, 5/20/67, $64.34.

D684 Kilburn Expense Report, 5/20/67, $64.34.

D685 Check stub-reimbursement of Kilburn, 5/13/67, $83.26.

D686 Kilburn Expense Report, 5/13/67, $76.92.

D687 Check stub-reimbursement of Kilburn, 5/6/67, $96.72.

D688 Kilburn Expense Report, 5/6/67, $96.72.

D689 Check stub-reimbursement of Kilburn, 4/29/67, $62.13.

D690 Kilburn Expense Report, 4/29/67, $62.13.

D691 Check stub-reimbursement of Kilburn, 4/22/67, $62.92.

D692 Kilburn Expense Report, 4/22/67, $62.92.

14

D693 Letter from S.F. Stepp of Snelson, Inc. dated May 31, 1968.

D694 Handwritten notes on Hohnstein phone call of May 28, 1968 [attached to D693].

D695 Handwritten notes by C.V. Kilburn on phone conversation from Warwick on June 20, 1968 [attached to D693].

D696 Request for Appropriation, 8/5/68, $80,950.00.

D697 Invoice from Snelson, Inc. to Essex, July 26, 1968.

D698 Invoice from Snelson, Inc. to Essex, July 12, 1968.

D699 Letter from S.F. Stepp of Snelson, Inc. to Kilburn, July 22, 1968.

D700 Photographs of Number 8 Properzi machine.

P100 Photographs of Number 8 Properzi machine.

Schedule C Annexed to Pre-Trial Order

Plaintiff's List of Witnesses and Their Testimony

(See Opposite ☞)

SCHEDULE C

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

- x

AMERICAN METAL CLIMAX, INC., :

Plaintiff, :

-against- :

ESSEX INTERNATIONAL, INC., :

Defendant. :

- x

69 Civ. 1979: CEM

Cal. No. 121(2)

PLAINTIFF'S LIST OF WITNESSES
AND THEIR TESTIMONY

Plaintiff American Metal Climax, Inc., intends to call the following witnesses to give oral testimony at the trial of this action, subject to their availability at the time:

Steven A. Furbacher
Herbert C. Clough
Jean L. Loyer
Robert Ferrie
Thorley D. Briggs
Ian R. MacDonald
C. K. Li
James Wiegand
Les Bloedel

Plaintiff intends to introduce deposition testimony from the following witnesses if they are not present at the trial and are beyond the subpoena powers of the Court:

Richard H. Publow (deceased)
Thomas D. Kaufman
Paul W. O'Malley
James C. Duncan
Thomas L. Siefert
Charles V. Kilburn
James M. Morris
Paul Raiford
[redacted]

Summary of Testimony

1. STEVEN A. FURBACHER, a vice-president of American Metal Climax, Inc., in 1967 and 1968, and president of its subsidiary AMAX Aluminum Company in 1966-1968, can testify about negotiation of the Properzi lease agreement and supply contract with defendant; installation of the Properzi at the Intalco plant; defendant's unilateral termination of the lease agreement and supply contract; defendant's efforts to sell the Properzi to plaintiff; removal of the Properzi by defendant and subsequent installation of the machine at defendant's plant in Indiana; the dispute between the parties concerning allocation of fixed costs and other expenses connected with the Properzi operation at Intalco; discussions leading to the issuance by defendant of a $424,898.95 check to plaintiff on July 29, 1968, and plaintiff's retention of the check, uncashed, until January 1969 when it was returned to defendant; and the damages suffered by plaintiff because of defendant's termination of the Properzi agreements.

2. THOMAS D. KAUFMAN, a vice-president of AMAX Aluminum Company in 1966-1968 and president of its primary metals division until May 1968, can testify about negotiation of the Properzi agreements; installation and start-up of the Properzi at Intalco; fluctuations in the price of aluminum rod during 1966-1968, defendant's efforts to reduce the contract price of Properzi rod from plaintiff, and its refusal to purchase rod from plaintiff in 1967; and defendant's unilateral termination of the Properzi agreements in May 1968.

3. HERBERT C. CLOUGH, a vice-president of AMAX Aluminum Company since 1966 and president of its primary metals division since May 1968, can testify about defendant's efforts to reduce the contract price of Properzi rod from plaintiff; defendant's unilateral termination of the Properzi agreements in May 1968; defendant's attempts to sell the Properzi to plaintiff; removal of the Properzi from Intalco by defendant; the dispute between the parties concerning allocation of fixed costs and other expenses connected with the Properzi operation at Intalco, and settlement of that dispute at a meeting on July 25, 1968; plaintiff's retention and subsequent return of the $424,898.25 check from defendant; and the damages suffered by plaintiff because of defendant's termination of the Properzi agreements.

4. The following witnesses can testify about the installation and start-up of the Properzi at the Intalco plant in Ferndale, Washington, and the maintenance, operation and performance of the machine until its removal from Intalco by the defendant in June 1968:

(a) JEAN L. LOYER, plant manager and then president of Intalco Aluminum Corporation in 1967 and 1968;

(b) ROBERT FERRIE, assistant plant manager and then plant manager at Intalco in 1967 and 1968;

(c) THORLEY D. BRIGGS, comptroller and a process engineer at Intalco in 1967-1968;

(d) IAN R. MacDONALD, cast house superintendent at the Intalco plant in 1967-1968;

(e) C. K. LI, assistant cast house superintendent and the project engineer assigned by Intalco to the Properzi operation until March 1968;

(f) JAMES WIEGAND, crew foreman for the Properzi operation at Intalco in 1967 and 1968;

(g) LES BLOEDEL, crew foreman assigned to the Properzi day shift operation at Intalco in March 1968.

5. RICHARD H. PUBLOW, vice-president in charge of the Utility Cable Division of Essex and head of the Intalco Properzi project for Essex until the end of 1967, has given deposition testimony concerning negotiation of the Essex agreements with AMAX and with Alcoa, his discussions with Essex head Paul W. O'Malley concerning Essex's inability to use all the aluminum rod it had contracted to buy from Amax and Alcoa, O'Malley's response that he would sell the Properzi to AMAX to get rid of that source of rod, and Publow's April 1968 advice to the Essex representative at Intalco to spend no more money on the Properzi because Essex was presently going to pull the machine out of Intalco.

6. PAUL W. O'MALLEY, president of Essex in 1966-1968, has given deposition testimony concerning negotiation of the Properzi agreements with AMAX; the Essex decision to terminate its contracts with AMAX and to remove the Properzi; and Essex's aluminum purchase requirements and commitments.

7. JAMES C. DUNSTON, in 1966 through 1968 the vice-president of the Wire & Cable Division at Essex, has given deposition testimony concerning installation of the Properzi at Intalco; efforts by Essex to sell the Properzi to AMAX; the Essex decision to remove the Properzi from Intalco; and the July 25, 1968 meeting between representatives of AMAX and Essex to resolve the dispute about allocation between AMAX and Essex of fixed costs and other expenses incurred in connection with the Properzi operation at Intalco.

8. CHARLES V. KILBURN, in 1967 and 1968 the Essex engineer appointed to supervise installation and start-up of the Properzi at Intalco, and since 1968 the manager of Essex's plant at Boonville, Indiana, has given deposition testimony concerning shipment and installation of the Properzi at Intalco, its start-up, maintenance and operation there, its subsequent removal to the Essex plant at Boonville, and operation of the Properzi at Boonville, Indiana.

9. THOMAS L. SEIFERT, in 1967 and 1968 a lawyer in the general counsel's office at Essex, has given deposition testimony concerning the July 25, 1968 meeting between representatives of AMAX and Essex to resolve the dispute about allocation of fixed costs and other expenses of the Properzi operation at Intalco.

10. JAMES M. MORRIS, was the president of Nichols Aluminum Company during 1966-1968. He has given deposition testimony concerning the sale of the Properzi to Essex;

technical details of the Properzi operation; the cancellation by Essex of the second Model 8 Properzi it had ordered; and the release of claims given to Nichols and Continuus by Essex.

11. PAUL K. RAIFORD was production manager and plant manager for Nichols in 1967 and 1968. He has given deposition testimony concerning the technical assistance given by Nichols in connection with installation of the Properzi at Intalco.

Dated: New York, N.Y.
November 21, 1973

PAUL, WEISS, RIFKIND, WHARTON & GARRISON
Attorneys for Plaintiff

Schedule D Annexed to Pre-Trial Order

Defendant's List of Witnesses and Proposed Testimony

(See Opposite ☞)

SCHEDULE D

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

- x

AMERICAN METAL CLIMAX, INC., :

Plaintiff, :

-against- : 69 Civ. 1979 - CBM

ESSEX INTERNATIONAL, INC., : Cal. No. 121(2)

Defendant. :

- x

DEFENDANT'S LIST OF WITNESSES
AND PROPOSED TESTIMONY

Defendant Essex International, Inc. ("Essex"), proposes to call the following as live witnesses upon the trial of this matter (subject, of course, to their availability at the time):

James C. Dunston
Charles V. Kilburn
Edward G. Murray
P. W. O'Malley
Thomas J. Seifert

Defendant proposes to introduce deposition testimony from the following witnesses if they are not present at the trial and are beyond the subpoena powers of the Court:

Thorley D. Briggs
Herbert C. Clough
Robert Ferrie
Stephen A. Furbacher
R. A. Gustafson
Thomas D. Kaufmann
C. K. Li
Ian Ross MacDonald
James M. Norris
Paul K. Relford
Phillip Thaure

Summary of Testimony

1. James C. Dunston, in 1966 through 1968 the Vice-President of the Wire & Cable Division of Essex, can testify about meetings concerning the progress of the Properzi project, the attempt to sell the Properzi to American Metal Climax, Inc., the decision to remove the Properzi from Intalco, and the meeting with American Metal Climax concerning settlement of the dispute over the removal of the Properzi from Intalco.

2. Charles V. Kilburn, in 1967 and 1968 an engineer employed by Essex, can testify about problems with Properzi maintenance, organization of the Properzi crew, production and technical problems regarding performance by the Properzi, and the removal of the Properzi from Intalco.

3. Edward G. Murray, from 1966 to 1969 in charge of purchasing metal and forecasting metal requirements for Essex, can testify about Essex' aluminum requirements and purchases.

4. P. W. [illegible]ley, in 1966 through 1968 the President of Essex, can testify concerning negotiations with American Metal Climax regarding the Properzi project, negotiations regarding an aluminum reduction plant joint venture with American Metal Climax, the decision to remove the Properzi, and Essex' general aluminum purchase requirements.

5. Thomas L. Seifert, in 1967 and 1968 an attorney employed by Essex, can testify about the meeting with Mr.

Clough on July 25, 1968 and the subsequent mailing of a settlement check to American Metal Climax.

6. Thorley D. Briggs was a process engineer and comptroller at Intalco during the times relevant to this case. His deposition testimony concerns Properzi operations and Properzi maintenance problems.

7. Herbert C. Clough was a Vice-President of American Metal Climax, Inc. during the time relevant to this case. His deposition testimony concerns the lease and purchase agreements, the Properzi project, the settlement negotiations and the subsequent retention of the Essex check by American Metal Climax.

8. Robert Ferrie was the assistant plant manager at Intalco during the time of the Properzi venture. His deposition testimony concerns organization at Intalco, Properzi maintenance problems, the personnel situation at Intalco, and removal of the Properzi.

9. Stephen A. Forbacher was a Vice-President of American Metal Climax in 1967 and 1968 and was President of AMAX Aluminum Company in 1966, 1967 and 1968. His deposition testimony concerns negotiations for a joint venture aluminum reduction plant, conferences between Essex and American Metal Climax regarding the Properzi project, Essex' removal of the Properzi, and the retention of Essex' settlement check by American Metal Climax.

10. R. A. Gustafson was the Lab Superintendent and Technical Director at Intalco when the Properzi was there.

His deposition testimony concerns lab and technical analyses of the Properzi product as well as the lab support for the Properzi operation.

11. Thomas D. Kaufmann was Vice-President of AMAX Aluminum Company in 1966, 1967 and 1968. His deposition testimony concerns negotiations for a joint venture between Essex and American Metal Climax, negotiations between Essex and American Metal Climax concerning the Properzi, maintenance problems at Intalco, and removal of the Properzi.

12. C. K. Li was the Assistant Cast House Superintendent at Intalco and the engineer in direct charge of the Properzi on behalf of American Metal Climax during most of the time the Properzi was at Intalco. His deposition testimony concerns the Properzi crew, maintenance and support problems, and day-to-day Properzi operations.

13. Ian Ross MacDonald was the Cast House Superintendent at Intalco during the time of the Properzi project. His deposition testimony concerns organization at Intalco, maintenance procedures at Intalco, and maintenance with respect to the Properzi.

14. James M. Morris was the President of Nichols Aluminum Company during the period of 1966-1968. His deposition testimony concerns sale of the Properzi to Essex, technical details with respect to Properzi operation, and the release given to Nichols and Continuus by Essex.

15. Paul K. Raiford was a Production Manager and Plant Manager for Nichols Aluminum Company in 1967 and 1968.

His deposition testimony concerns his visits to Intalco, technical details with respect to the Properzi and technical assistance given by Nichols.

16. Phillip Thaure was the Production Manager at Intalco in 1967 and 1968. His deposition testimony concerns organization at Intalco, Properzi operations at Intalco, maintenance problems, and removal of the Properzi.

Defendant may also call as a witness any witness listed by plaintiff and reserves the right to read the deposition of any other witness who has been deposed in this matter. Defendants may or may not actually call each or any of the above-listed witnesses (or offer their deposition testimony), depending upon the nature and scope of plaintiff's case.

Dated: New York, New York
October 12, 1973

WHITE & CASE

By /s/ John T. McAvoy
A Member of the Firm

Attorneys for Defendant

Plaintiff's Proposed Findings of Fact and Conclusions of Law

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

[SAME TITLE]

Plaintiff American Metal Climax, Inc., proposes the following findings of fact and conclusions of law:

FINDINGS OF FACT

The Parties

1. Plaintiff American Metal Climax, Inc. ("Amax"), is a New York corporation with its principal place of business in New York. [Facts Not in Dispute (1).]

2. Defendant Essex International, Inc. ("Essex"), is a Michigan corporation with its principal place of business in Indiana. [Facts Not in Dispute (2).]

3. The element aluminum, "primary aluminum," is obtained commercially by a two-step process. First, the basic ore, bauxite, is refined into aluminum oxide, "alumina." The alumina is then subjected to an electrochemical process in a "reduction plant" made up of one or more "pot lines." This process results in molten aluminum, which may then be cast into ingot or other forms. [Tr. 39a-43.]

4. At the time with which we are concerned, plaintiff Amax owned a half-interest in Intalco Aluminum Corporation ("Intalco"), which operated a reduction plant at

Ferndale, Washington. Thus Amax was possessed of a supply of primary aluminum. [Facts Not in Dispute (13), (14); Tr. 39a, 50.]

5. Defendant Essex was in the business, *inter alia,* of manufacturing wire, cable and related products from primary aluminum. [Facts Not in Dispute (2); Tr. 575-76.]

6. S.p.a. Continuus ("Continuus") was an Italian firm which made, in various sizes, a machine for the continuous casting of molten aluminum into aluminum rod. The machine, named after its designer, was called a "Properzi." [Facts Not in Dispute (3), (5); Tr. 43-48.]

7. Office Technique des Trefiles ("OTT") was a French enterprise. It manufactured automatic coilers which wound the rod produced by a Properzi into coils. [Tr. 48, 416.]

8. Nichols Aluminum Company ("Nichols") was the American agent for Continuus and OTT. [Facts Not in Dispute (4); Morris Dep. 51-52 (Def. Exh. D-731).]

Background

9. In April 1966, defendant Essex ordered through Nichols a Model 8 Properzi and an OTT automatic coiler. Essex had had previous experience with Properzi, having owned and operated a smaller model from 1953 to 1957. [Facts Not in Dispute (6); Tr. 575, 594-96.]

10. The Model 8 Properzi, when operated in conjunction with the OTT coiler, casts and rolls molten primary aluminum into the 3/8" coiled aluminum rod from which wire and cable are fabricated. The Model 8 Properzi ordered by Essex was the newest and largest model: it was

warranted by Continuus to produce 14,000 pounds of aluminum rod per hour. Smaller models manufactured by Continuus had long been in operation in the United States, and two other Model 8's were to be delivered simultaneously to Alcoa and General Cable. When Essex ordered the Model 8, Essex planned to install the machine at a fabrication plant which Essex was then building in Paducah, Kentucky. [Facts Not in Dispute (5), (7), (8); Tr. 43, 47-48, 444, 514, 575-76, 601-02; Morris Dep. 12, 45-46 (Def. Exh. D-731).]

11. At about the time that it ordered the Model 8 Properzi, Essex wanted to insure itself a regular, low-cost source of primary aluminum. To this end, Essex had talks with a number of aluminum producers, including Amax, aimed at finding a partner to share in the construction of a reduction plant. [380-81, 437-38, 575-77; Publow Dep. 14-17 (Pl. Exh. P-104); Pl. Exh. P-9.]

The Properzi Agreements between Amax and Essex

12. In about August 1966, in the course of these discussions, Essex and Amax reached an agreement in principle on another venture: Essex would lease its Model 8 Properzi to Amax and would install it at the Intalco plant in Washington, where Amax would produce and sell Properzi rod to Essex and other customers. [Facts Not in Dispute (12), (15); Def. Exh. D-95.]

13. In deciding to deal in this fashion with Amax, Essex rejected a proposed aluminum purchase agreement with Consolidated Aluminum Company which, by eliminating transcontinental freight costs, would have enabled Essex to obtain rod for its Midwest fabrication plants at a lower total cost than the deal with Amax offered. The critical determining factor which made Essex choose an agreement with Amax over any alternative proposal was

the possibility of a future joint venture with Amax in a reduction plant. [Tr. 380-82, 437-38, 575-77; Publow Dep. 14-17 (Pl. Exh. P-104); Pl. Exh. P-9.]

14. Two formal written contracts dated December 14, 1966 set out the terms of the agreements between Essex and Amax with respect to the Properzi—the "bailment lease agreement" and the "supply contract." The contracts were drawn by Essex. They were to run until December 31, 1973, or such other date as might be mutually agreed upon. [Facts Not in Dispute (17); Pl. Exh. D-1, D-2, D-97, D-98.]

15. Under the bailment lease agreement, Essex leased the Properzi to Amax for a rent of $10. Amax was to pay no additional rent or royalty for use of the machine to manufacture rod for sale to Essex. At any time that the machine was not being operated to produce rod for Essex, Amax could use it to produce rod for its own use or for sale to others—paying Essex a royalty of ¼¢ per pound for rod produced for Amax's own use, and ⅜¢ per pound for rod sold to others. [Pl. Exh. D-1.]

16. Under paragraph 3 of the bailment lease agreement, Essex's duties were as follows:

> "Essex will install the Properzi at the location at said Ferndale, Washington plant designated by Amax, in consultation with Amax. After installation, Essex will provide adequate training at Ferndale in the operation of the Properzi for the original crew of personnel, who will operate the Properzi. Essex will be responsible for the original running in of the Properzi and Amax' responsibility, under the rod bar stock Purchase and Sale Agreement between the parties of even date herewith, for

the delivery of bar stock will not start until the Properzi is fully installed by Essex and operating normally. Throughout the life of this lease Essex shall be obligated to give Amax, or its designee, all the technical assistance needed to run said Properzi. Should the Properzi fail to live up to specifications, Essex promptly will fix or remove the Properzi and restore the site." [Pl. Exh. D-1.]

17. Paragraph 4 of the bailment lease agreement read:

"From the completion of the installation of the Properzi, expected on or before March 31, 1967, and its running in subsequent to that date, Amax shall be responsible for the day-to-day maintenance of the Properzi, making repairs as necessary for its preservation, subject to ordinary wear and tear." [Pl. Exh. D-1.]

18. The conditions under which Essex had the right to remove the Properzi from Intalco were set out in paragraph 7(d) of the bailment lease agreement:

"Amax agrees as follows:

* * *

"(d) to permit Essex to enter the Ferndale plant and take possession of the Properzi and remove it in the event of any breach by Amax of any of its agreements herein, or, if during the period of this lease or any extension thereof, bankruptcy or insolvency proceedings are commenced by or against Amax or Intalco, if a receiver is appointed to take possession of the business of Amax or Intalco, or if Amax or Intalco discontinue business on the premises." [Pl. Exh. D-1.]

19. The supply contract provided in pertinent part that Essex would purchase coiled aluminum rod from Amax, at a price of 23.86 cents per pound F.O.B. Intalco, based on a published aluminum ingot "book price" of 24.5 cents per pound. The contract price for rod was to vary upward or downward by the amount that the book price of ingot might vary from time to time. Essex was obligated to purchase and Amax to supply at least 15 million pounds of rod in 1967 and 18 million pounds annually from 1968 through 1973. [Pl. Exh. D-2; Def. Exh. D-735; Tr. 53-56.]

Essex's Second Model 8 Properzi and the Essex-Alcoa Contract

20. In May 1967, before the first Model 8 Properzi had been received at Intalco, Essex ordered a second Model 8 for installation in 1968 at its facility in Paducah, Kentucky. [Facts Not in Dispute (34), (28).]

21. To secure a supply of primary aluminum for the Properzi to be installed at Paducah, Essex began negotiating with Alcoa for the purchase of molten aluminum from the Alcoa reduction plant in nearby Warrick, Indiana. Under the terms of a written contract dated December 26, 1967, Essex agreed to buy 22 million pounds of aluminum from Alcoa in 1968, and 50 million pounds in each of the years 1969 through 1983. The cost to Essex of making rod from Alcoa aluminum was appreciably less than the cost of buying aluminum rod from Amax, principally because the freight charges for delivery of aluminum to Paducah from Alcoa's Indiana plant were substantially less than those from the Intalco plant in Washington. [Facts Not in Dispute (32); Pl. Exh. P-9, P-54; Publow Dep. 33-36 (Pl. Exh. P-104).]

The Amax-Okonite Contract

22. On December 20, 1967, as was its right under the bailment lease agreement with Essex, Amax contracted to supply a minimum of 120 million pounds of Properzi rod to The Okonite Company during the years 1968 through 1972. The price was to be 26.8 cents per pound, based on an aluminum ingot book price of 25.0 cents per pound, with the contract price for rod varying as the published price of ingot might vary. [Pl. Exh. D-136.]

Installation of the Properzi at Intalco

23. Delivery and installation of the Model 8 Properzi at Intalco, forecast for March 1967, was delayed until November 1967 through no fault of either Amax or Essex. The OTT coiler arrived even later, and was not installed until March 4, 1968. [Facts Not in Dispute (28), (31); Def. Exh. P-48).]

24. From November 1967 until May 1968, the Properzi crew at Intalco and Charles Kilburn, the project supervisor from Essex who had had previous experience with Properzis, worked to de-bug the new machine and bring it to normal operation. They were assisted at times by experts from Continuus and Nichols. [Tr. 293-309, 594-96, 640-42; Def. Exh. P-48.]

25. Kilburn and the Intalco crew encountered problems in their efforts to bring the Properzi up to its rated production of 14,000 pounds of rod per hour. These problems were not atypical: all three Model 8's then installed in the United States experienced difficulties with the copper ring mold and the pouring spout, and the secondary cooling system as originally designed has never been used on any Model 8. But Alcoa and General Cable succeeded in

mastering the problems fairly soon after installation, and their machines were performing up to specifications. [Raiford Dep. 17-20, 28-37, 39, 42, 78-81, 94, 96-97, 99 (Def. Exh. D-732); Morris Dep. 86-87 (Def. Exh. D-731); Tr. 726-27.]

26. In early 1968, when the running in of the Properzi at Intalco was taking longer than had been anticipated, Amax and Essex had discussions as to when the Properzi would be considered "operating normally," so that responsibility for maintenance and operation of the machine would shift from Essex to Amax. By an exchange of letters dated January 22, 1968 and February 8, 1968, the parties agreed that the Properzi would be considered operating normally and would become the responsibility of Amax when it had operated for two weeks at an average production of 12,600 pounds per operating hour, and had produced in the two weeks at least 750,000 pounds of acceptable rod. [Tr. 386-87; Pl. Exh. P-12, P-13.]

27. During the period November 6, 1967 through May 16, 1968 the quantity of rod produced by the Properzi steadily increased, and for a short time production averaged 11,000 pounds per hour, but rod production at Intalco never reached the level at which the parties had agreed the machine would be "operating normally." [Def. Exh. P-48, Pl. Exh. P-2, Tr. 660.]

Abandonment of the Proposed Pot-Line Venture and Essex's Overcommitment for Rod

28. By March 1968, the possible Amax-Essex jointly-owned reduction plant was moribund. As Amax vice-president Kaufmann said of a telephone conversation he had with Essex vice-president Dunstan on about March 13, 1968:

> "As for planning [Essex president] O'Malley's trips to Newfoundland [to view a possible joint pot-

> line site], I emphasized that the timing couldn't be worse. I said when asked I had told Amax officials that our experience with Essex over the year had shown that on the technical front the Properzi machine was a year late and not yet working properly, that on the commercial front Essex had gotten out of their contract commitments in 1967 claiming no legal or moral obligation, and during 1968 asking for better terms, and that finally on the financial front Essex is yet to pay Amax any money owed, and have cavilled over every charge. He got the message." (Pl. Exh. D-93.)

[Kaufman Dep. 27-29 (Pl. Exh. P-105); Def. Exh. P-14, Pl. Exh. D-93.]

29. As of March 1968, moreover, Essex forecast that it would need no more than 22 million pounds of rod annually. (Actually, in 1968 Essex used only 17.5 million pounds.) But Essex was contractually obligated to buy 18 million pounds of rod from Amax annually. And in addition, it was committed to buy 22 to 50 million pounds of aluminum each year from Alcoa for the second Properzi at Paducah—which had a capacity to produce up to 60 million pounds of rod per year. [Pl. Exh. D-2, P-54, P-62, P-64, P-66; Tr. 514-16.]

30. On May 2, 1968, Nichols offered to send in its own men and—within four weeks—bring the Intalco Properzi up to the standards of normal operation set by the parties. The total cost to Essex would be not more than $16,000, to be paid *only* if Nichols were successful. Essex claims now that Nichols' proposal did not in fact track the parties' definition of "operating normally." But Morris of Nichols testified that Nichols proposed what Essex requested. And surely Essex never asked any clarification. Instead, Essex

rejected the Nichols proposal, telling Morris that it "was not going to spend any more money on the equipment." [Pl. Exh. P 24; Morris Dep. 92-97 (Def. Exh. D-731).]

Essex Terminates the Properzi Agreements

31. By registered letter dated May 10, 1968, Essex gave notice to Amax that it had determined to remove the Properzi from Intalco, asserting that the machine had failed to live up to specifications. Essex said further that removal of the Properzi would terminate the aluminum supply contract between the parties. In neither this letter nor any other did Essex claim any failure on the part of Amax or Intalco personnel. [Pl. Exh. P-29.]

32. In letters dated May 17 and May 29, 1968, Amax rejected the Essex claims. In the May 29 letter, Amax gave notice:

> "Amax will hold Essex responsible for its loss of profits, its damages from being forced to acquire redraw under other arrangements in order to fulfill its commitments and all other loss and damage resulting from Essex not performing both the Bailment Lease Agreement and the Aluminum Purchase Agreement dated December 14, 1966. Essex has no right to remove the Properzi and Amax will hold Essex responsible for the consequences of such removal and the refusal of Essex to put the Properzi into operation promptly." [Pl. Exh. P-31, P-34.]

Essex Tries to Sell the First Properzi or Cancel the Second

33. In June 1968 there were tentative settlement discussions between Amax and Essex turning on the possibility of Amax buying the Properzi at Intalco, but the discussions were inconclusive. Amax consulted counsel in

the State of Washington as to whether it should attempt to prevent removal of the Properzi by Essex, and was advised not to interfere with the removal. [Tr. 59-62, 743-44.]

34. In June 1968 Essex took steps to cancel its order for the second Properzi. On June 7, it wrote to Nichols to complain of deficiencies in the Properzi at Intalco, but it did not ask that Continuus take back this first Properzi. It did no more than put Nichols on notice that Essex might not accept the second Properzi scheduled for shipment to the United States in July 1968. [Pl. Exh. P-2.] Indeed, at no time did Essex ever contemplate abandoning the use of a Model 8 Properzi; its decision was only to reduce its Properzi involvement from two machines to one. And it made economic sense for that one to be in the Midwest rather than the far Northwest.

35. On June 25, 1968, Nicols said that, if Essex were to offer unconditional releases of any claims arising out of the Properzi equipment and the OTT coiler, Nichols would recommend that Continuus and OTT accept cancellation of the pending orders and return Essex's down payments as soon as the machines were sold elsewhere. On June 28, Essex vice-president Dunstan wrote Nichols that such a settlement would be satisfactory to Essex:

> "Essex would accept as a satisfactory settlement the releasing of Continuus, O.T.T. and Nichols from any claims arising from the Properzi operation at Bellingham, provided they agreed to the cancellation of the pending orders and returned the down-payments we have made to each of them.
>
> "If this is acceptable to the two principals, please advise and we will send you a letter of release." (Pl. Exh. D-276.)

In October 1968, after other buyers had been found for the machines, Essex concluded settlements with Continuus, Nichols and OTT on the precise terms established in June 1968. [Pl. Exh. P-26, D-276, Def. Exh. D-304, D-302.]

Essex Installs the Intalco Properzi at Boonville, Indiana

36. On June 24, 1968, Essex began to dismantle the Properzi and remove it from the Intalco plant for installation elsewhere. Following the advice of counsel, Amax did not interfere with the machine's removal. [Tr. 701-02, 61-62.]

37. Essex stored the Properzi temporarily, and then installed it at a new Essex plant in Boonville, Indiana, near Alcoa's Warrick reduction plant. Installation at Boonville began in March 1969, and the machine was operating satisfactorily by April 1969, Essex with Nichols' help having made some design modifications not amounting to major innovations in the machine. [Tr. 701-07, 719-27.]

Damages Suffered by Amax through Essex's Termination of the Properzi Agreements

38. Essex's removal of the Properzi from Intalco in June 1968 foreclosed Amax from fulfilling its contractual commitments to sell 120 million pounds of rod to Okonite in 1968-1972, and 105.9 million pounds of rod to Essex in 1968-1973. (The Essex supply contract called for delivery of 108 million pounds in 1968-1973, but Amax had in fact shipped 2.1 million pounds of rod to Essex during the Properzi start-up period, under a separate billing arrangement with Essex.) [Pl. Exh. D-136, D-3, P-103.]

39. The cost of producing the Properzi rod at Intalco in May 1968 was 17.0 cents, the largest component in that

cost being 15.8 cents for the molten metal used. [Tr. 163-180; Def. Exh. D-30.]

40. As the selling price per pound in the Essex contract was 24.36 cents as of May 1968, Amax's profit (contract price minus cost) on the sale of rod to Essex would have been 7.36 cents a pound, or $7,794,240 on 105.9 million pounds. [Pl. Exh. D-2.]

41. As the selling price per pound in the Okonite contract was 26.80 cents as of May 1968, from which those components representing 1.40 cents for freight charges and .38 cents for the royalty to Essex should be deducted in computing Amax's lost profits, Amax's profit on the sale of rod to Okonite would have been 8.02 cents a pound, or $9,624,000 on 120 million pounds. [Pl. Exh. D-136.]

42. The removal of the Properzi denied Amax the opportunity to make a total profit of $17,418,240 on the sale of rod to Essex and Okonite. However, Amax was able to resell the amounts of aluminum involved, in the form of T-ingot, at a lesser profit than it would have earned if the aluminum sales had been in the form of Properzi rod. Hence the lesser profit made on the sale of T-ingot should be deducted from the total profit Amax would have made on the sale of Properzi rod, to compute the amount of Amax's lost profits resulting from removal of the Properzi. [Tr. 86-90, 179-80, Pl. Exh. P-106.]

43. The cost of producing a pound of T-ingot at Intalco in May 1968 was 16.2 cents. As the selling price per pound of T-ingot in May 1968 was 22.1 cents, Amax's profit on the sale of 225.9 million pounds of T-ingot was $13,328,100. [Tr. 88-90, 179, Pl. Exh. P-106.]

44. $4,090,140, the difference between the profit Amax *would have made* selling Properzi rod to its contract customers, Essex and Amax, and the profit Amax *did* make by selling that amount of aluminum in the form of T-ingot, is the amount of damages suffered by Amax because Essex terminated the Properzi agreements. [Tr. 90, Pl. Exh. P-106.]

45. At the trial of this case, an Essex witness suggested that Amax's cost of producing a pound of Properzi rod was higher than 17.0 cents, (and Amax's lost profits lower, therefore), when the Amax cost figures were compared to (a) the separate billing arrangements made for the 2.1 million pounds of rod produced at Intalco during that costly start-up period, (b) the costs incurred at the Essex plant in Boonville during the first few months of the Properzi start-up period, and (c) the price Alcoa charged Essex for converting molten metal to rod. [Tr. 447-77; Def. Exh. D-726, D-729.]

46. There is a fallacy in the Essex comparison, however, which renders the Essex figures meaningless: The Essex computations would equate the .8 cent per pound difference between Amax's 17.0 cost of producing a pound of rod and its 16.2 cent cost of producing a pound of T-ingot, with the 3.0 cents per pound charges Essex incurred to convert molten metal to Properzi rod. The equation is meaningless because the two figures represent entirely different computations. Properzi rod is not produced from T-ingot, but from molten metal. The cost of converting molten metal to Properzi rod includes *all* of the machine costs and direct labor costs involved in running the Properzi, plus shipping costs, dross recovery costs, and an allocation of general plant overhead costs or rent. The premium for rod over T-ingot, however, represents the cost of

the *additional* machine time needed to make rod over that required for casting T-ingot, and the cost of the alloying ingredients needed for rod. [Tr. 163-80; Def. Exh. D-30.]

The Agreement of July 25, 1968

47. During the first half of 1968 a collateral dispute was troubling the parties: Essex refused to pay in full the monthly invoices from Amax for Properzi rod being shipped from Intalco during the running-in period, Essex asserting that a disproportionate share of Intalco fixed costs was being allocated to the Properzi project in the Amax billings. Finally, on July 5, 1968, Essex acknowledged that, of the $452,738.95 balance unpaid of Amax's total billings covering aluminum purchases, labor and other costs, "$384,908.95 has basis in fact, but the $67,830.00 of fixed charges have never been resolved to our satisfaction." The parties decided to have one last meeting to see if they could reach a compromise on the $67,830 in fixed charges. [Pl. Exh. P-103, P-18, D-12, P-20.]

48. On July 25, 1968, Essex vice-president Dunstan and Essex attorney Siefert met with Amax vice-president Clough, who was unaccompanied by any attorney. Clough agreed to accept $424,898.95 from Essex, as payment for the balance owing on the Amax invoices to Essex. Nothing was discussed at the meeting about settlement of the controversy between the parties concerning Essex's termination of the lease and supply agreements. [Tr. 62-67, 122-24, 494-95, 530-33, 557-58; Pl. Exh. P-19, P-101, D-12.]

Essex's Restrictively Endorsed Check for $424,898.95

49. On July 26, 1968, Essex sent Amax a check in the amount of $424,898.95. The check bore an endorsement stating:

> "Negotiation of this check constitutes final settlement of all disputes arising from Bailment Lease Agreement, and Purchase and Sale Agreement, both dated December 14, 1966, between Essex Wire Corporation and American Metal Climax, Inc." [Pl. Exh. P-21.]

50. This Essex check was received by Amax on July 29, 1968. Amax did not cash the check, but held it for five months while it consulted with house counsel and retained outside counsel for advice about suing Essex for breach of the Properzi agreements. On January 2, 1969 Amax returned the check to Essex. This lawsuit was commenced on May 8, 1969. [Tr. 69-71, 73-74, 129, 135-36; Pl. Exh. P-21, D-49, D-51.]

51. Amax did not hold the $424,898.95 check with the intention of lulling Essex into a false sense of security. Amax was certain that the failure of the check to clear would be noticed by Essex. As the check was neither a cashier's check, nor certified, Essex did not lose the use of the money during the time the check was uncashed. By holding the check uncashed, however, Amax could neither invest nor earn bank interest on the money. [Tr. 71-72.]

52. Amax took some time to decide what to do about the check, and whether to sue Essex, in large part because its corporate policy was to avoid litigation. [Tr. 73-74.]

53. Amax's then president, Furbacher, testified that one factor in holding the check while considering what to do about it was a desire not to alienate a customer, Essex, with which Amax had other dealings. But the volume of such business was neither large nor unusually profitable for Amax. And, significantly, Essex remained an Amax customer after the check was returned and even after this action was begun. [Tr. 75-78, 130-134, 745, 748-49.]

Plt.'s Proposed Findings of Fact and Conclusions of Law

Damages Suffered by Amax through Essex's Failure to Re-tender the Check

54. Amax returned the $424,898.95 check because of the unacceptable restrictive endorsement. Essex has never offered unconditionally to pay Amax the $424,898.95 which it had agreed to pay, which was concededly due, and which is still owing. Amax's damages on account of Essex's failure to perform the July 25, 1968 agreement amount to $424,898.95 plus interest from July 25, 1968.

CONCLUSIONS OF LAW

Jurisdiction

1. The Court has jurisdiction of the parties and the subject matter of this action, pursuant to 28 U.S.C. §1332(a)(1).

Essex Breach of the Properzi Agreements

2. Defendant Essex breached the bailment lease agreement and the supply contract between the parties by failing and refusing to complete the running-in of the Properzi so as to bring the machine to normal operation, and by removing the Properzi from Intalco without plaintiff's consent, making it impossible for Amax to supply Properzi rod to Essex and its other customers.

3. It is the clear meaning of the language of paragraph 3 of the bailment lease agreement, which provided that Essex was responsible for the "original running-in" of the Properzi, that Essex had the duty of bringing the machine to the point where it was "operating normally." The period of "original running-in" was to end only when normal operation began.

4. The parties had agreed, as is evidenced by their exchange of correspondence dated January 22 and February

8, 1968, that Properzi would be considered "operating normally" when it had operated for two weeks at an average production of 12,600 pounds per operating hour, and had produced in the two weeks at least 750,000 pounds of acceptable rod. This subsequent agreement should be considered a *pro tanto* modification of the bailment lease agreement, spelling out the details of Essex's obligation to bring the machine to normal operation.

5. Essex did not bring the Properzi to the point of normal operation at Intalco, but removed the machine, claiming that the machine was incapable of operating normally. This Essex claim is controverted by the following facts:

a. Essex never asked Nichols or Continuus to take back the Properzi on the ground that it was incapable of operating normally;

b. this Properzi *was* brought to normal operation within a month of its reinstallation at the Essex plant in Boonville, Indiana; and

c. The Model 8 Properzis delivered to General Cable and Alcoa at about the same time as Essex received its Properzi were operating normally within several months thereafter.

6. The fact that Essex might have had to spend more time and money than it originally expected to get the Properzi to operate normally does not justify Essex's unilateral termination of the bailment lease agreement and supply contract.

> "It is a well-settled rule of law that a party must fulfill his contractual obligations * * *. If what is agreed to be done is possible and lawful the obliga-

> tion of performance must be met. Difficulty or improbability of accomplishing the stipulated undertaking will not avail the obligor. It must be shown that the thing cannot by any means be effected. Nothing short of this will excuse nonperformance. The courts will not consider the hardship or the expense or the loss to one party or the meagreness or uselessness of the result to the other."

Cameron-Hawn Realty Co. v. *City of Albany*, 207 N.Y. 377, 381 (1913). *Accord, Krulewitch* v. *Nat. Importing & Trading Co., Inc.*, 195 App. Div. 544, 186 N.Y. Supp. 838 (1st Dep't 1921).

7. There is no merit to the Essex contention that, under paragraph 3 of the bailment lease agreement, Essex had the *right* to remove the Properzi from Intalco if the machine failed to live up to specifications. Essex was to have a *right* to remove the Properzi from Intalco only under the conditions stated in subparagraph 7(d) of the bailment lease agreement—if Amax breached any of its agreements, or went into bankruptcy or receivership, or discontinued business on the Intalco premises.

8. It is clear that the Essex undertaking in paragraph 3—to fix or remove the Properzi and restore the site—was intended for *Amax's* protection, to give *Amax* the option of requiring Essex to fix the machine or to remove it if the machine proved inoperable. If Essex became dissatisfied with the performance of the Properzi, Essex had its own remedy—a suit against Continuus and Nichols on the Properzi warranty running to Essex.

9. It is quite reasonable within the intendment of the lease for Essex so to bear the risk of poor performance by the Properzi. The machine belonged to Essex. Essex

was supposedly experienced with Properzis. And Amax had a right under the lease agreement to make contracts for the supply of rod to other customers—a right which it exercised in December 1967 by making the contract with Okonite which was to run through 1972. In these circumstances, paragraph 3 of the lease agreement cannot be interpreted as giving Essex a unilateral right to remove the Properzi, without any regard to commitments Amax may have made with third parties, solely because Essex was not satisfied with the machine's performance.

10. From the credible evidence presented at trial, it appears that Essex's reason for ending the agreements with Amax was not any conviction that the machine could not be brought up to normal operation, but rather a realization that the proposed pot-line venture with Amax had fallen in, coupled with the fact that Essex had no use for the rod it was committed to buy from Amax in addition to the output of its second Properzi. In consequence, Essex rejected the Nichols proposal to start up the Properzi at Intalco on a risk-free basis, and began to make arrangements to reduce its Properzi commitment.

Amax's Damages for Breach of the Properzi Agreements

11. Essex's anticipatory repudiation of the bailment lease agreement and the supply contract constitutes a total breach of both contracts, and damages are therefore to be measured in terms of the entire contract. *Ga Nun* v. *Palmer*, 202 N.Y. 483 (1911); *Cohen* v. *Kranz*, 12 N.Y.2d 242 (1963).

12. As Essex's removal of the Properzi put it beyond Amax's power to make Properzi rod for its contract customers Essex and Okonite, Amax is entitled to recover

the profit it would have made if Essex had fully performed its obligations, the proper measure of damages being the difference between Amax's cost of making rod and the contract price it anticipated receiving for the rod, less any profit received by Amax upon resale of aluminum in the form of T-ingot. U.C.C. §2-708(2); *Hinckley* v. *Pittsburgh Steel Co.*, 121 U.S. 264 (1887); *Todd* v. *Gamble*, 148 N.Y. 382 (1896); *Lehmaier* v. *Standard Specialty & Tube Co.*, 123 App. Div. 431, 108 N.Y. Supp. 402 (1st Dep't 1908); *Biothermal Process Corp.* v. *Cohu & Co.*, 119 N.Y.S. 2d 158 (Sup. Ct. N.Y. County 1953), *aff'd in part and rev'd in part on other grounds*, 283 App.Div. 60, 126 N.Y.S.2d 1 (1st Dep't), *aff'd*, 308 N.Y. 689 (1934).

13. Measured by this rule of damages, Amax's lost profits on lost sales of Properzi rod attributable to Essex's breach of the Properzi agreements amount to $4,090,140, together with interest thereon from May 10, 1968. C.P.L.R. §5001.

Essex Breach of the July 25, 1968 Agreement

14. It is uncontroverted that on July 25, 1968 the parties agreed that Essex would pay, and Amax would accept, $424,898.95 in satisfaction of all amounts theretofore billed to Essex by Amax for 2.1 million pounds of rod produced at Intalco and shipped to Essex during the Properzi running-in period. Essex never did make that payment to Amax in an acceptable form, and the amount is concededly due and owing. Amax is therefore entitled to damages from Essex in the amount of $424,898.95, plus interest thereon from July 25, 1968, for breach of the July 25, 1968 agreement. C.P.L.R. §5001.

Essex's Defense and Counterclaim that Amax Breached the Agreements

15. Although Essex made no such claim at the time, it contends in this action that it was justified in removing the Properzi from Intalco because Amax had breached the lease agreement by failing to provide adequate day-to-day maintenance for the machine. The contention is advanced as an affirmative defense and as a counterclaim, but it has no merit.

16. Under paragraph 4 of the bailment lease agreement, Amax's obligation to supply day-to-day maintenance for the Properzi was to begin only when the machine had been run in and was operating normally. Since Essex never did complete the "original running-in" of the Properzi, the time for performance of Amax's contractual maintenance obligations never did arrive.

17. The labor and maintenance services being provided at Intalco during the Properzi's running-in period were not being furnished by Amax pursuant to the lease agreement, but were to be paid for by Essex under a separate billing arrangement. In the July 25, 1968 compromise agreement, Essex succeeded in shaving $40,000 from the price it was charged for those services.

18. The Essex counterclaim for damages for breach of the Properzi agreements by Amax must be dismissed.

The Essex Defense of Consent or Waiver

19. Essex asserts as an affirmative defense to Amax's claims of breach of contract that Amax, by not preventing the removal of the Properzi from Intalco, physically or by a suit for an injunction, thereby consented to the removal and so waived any claims it had against Essex.

20. There is no evidence in the record to show that Amax actually consented to removal of the Properzi, although it offered no physical resistance to the removal.

a. In May 1968, when Essex first informed Amax of its intention to take out the Properzi, Amax replied promptly that:

"Essex has no right to remove the Properzi and Amax will hold Essex responsible for the consequences of such removal and the refusal of Essex to put the Properzi into operation promptly."

b. Thereafter Amax consulted counsel to ask if it had a legal right to prevent Essex from retaking possession of a machine owned by Essex but leased to Amax under a bailment lease agreement. It was the advice of counsel that Amax offer no resistance to the removal, and Amax followed that advice.

c. Within a year after the removal of the Properzi from Intalco, Amax commenced this action for damages against Essex on account of the removal.

21. As a matter of law, Amax could not have enjoined Essex from removing the machine, because Amax had an adequate remedy at law for damages for breach of contract. Essex may have had power to remove the Properzi and prevent Amax's performance of the Properzi agreements, but it is required to respond in damages if that power is illegally exercised. *Dunston* v. *Hastings*, 95 App.Div. 360, 88 N.Y.Supp. 835 (1st Dep't 1904). Hence there cannot be inferred from the fact of Amax's noninterference with physical removal of the Properzi any requisite intent on Amax's part to waive its claims against Essex for damages for breach of contract. *Davison* v. *Klaess*, 280 N.Y. 252 (1939); *Parsons* v. *Lipe*, 158 Misc. 32, 79, 286 N.Y.Supp. 60, 107

(Sup. Ct. Onondaga County 1933), *aff'd*, 243 App.Div. 681, 277 N.Y.Supp. 428 (4th Dept. 1935), *aff'd*, 269 N.Y. 630 (1936).

Essex's Defense of Accord and Satisfaction by Reason of Amax's Retention of a Restrictively Endorsed Check

22. Essex asserts by way of affirmative defense to Amax's claims of breach of the Properzi agreements that at a meeting of the parties on July 25, 1968, Essex with its counsel and Amax without counsel, Amax expressly agreed to accept $424,898.95 from Essex in compromise not only of outstanding invoices in a greater amount for rod deliveries, but also in full settlement of all disputes arising out of the Properzi agreements. All of the participants in that July 25 conference testified at trial that nothing was discussed at the meeting concerning settlement of the larger controversy between the parties. Hence Essex's defense that on July 25 Amax expressly agreed to settle all disputes in consideration of the $424,898.95 payment must fail for lack of proof of any express assent on Amax's part.

23. Essex contends nevertheless that Amax accepted the $424,898.95 check in full settlement of all disputes by retaining the check, so endorsed, for an unreasonable length of time before returning it to Essex.

(a) Whether a restrictively endorsed check has been retained for such an unreasonable length of time as to be deemed an acceptance of the condition on which payment was made, is a question of fact to be determined with regard to all the circumstances of the case. *Chesapeake Industries, Inc.* v. *Brandt*, 137 N.Y.S.2d 195 (Sup. Ct. N.Y. County 1954); *Tractor & Equipment Corp.* v. *Chain Belt Co.*, 50 F.Supp. 1001 (S.D.N.Y. 1942). The mere fact of retention for an unusual length of time is not in itself enough to

constitute an acceptance. *Patten* v. *Lynett,* 133 App.Div. 746, 749, 118 N.Y.Supp 185, 188 (1st Dep't 1909) ("While the checks were kept an unusual length of time, they were finally returned, and the learned trial court properly charged the jury that an accord and satisfaction was not proven."). The circumstances to be examined ought properly to relate to the intent of the creditor in retaining the check for a time before returning it, and the detriment, if any, suffered by the debtor on account of such retention. Seen generally Annot., *Creditor's retention of check without cashing or negotiating it as acceptance in payment or settlement of an unliquidated or disputed claim,* 13 A.L.R. 2d 736 (1950).

(b) In the circumstances of this case, set out in paragraphs 50 through 53 of the Findings of Fact, Amax's retention of the restrictively endorsed check for five months before returning it is not to be deemed an acceptance of the condition on which payment was tendered.

Essex's Estoppel Defense

24. Essex asserts as a final affirmative defense that Amax is estopped to deny that it accepted the $424,898.95 check pursuant to the restrictive endorsement thereon, because of allegedly misleading conduct by Amax upon which Essex claims it relied to its detriment. That estoppel defense must fail because of a failure of proof of essential elements of the defense:

(a) There is no sufficient showing of any knowledge, realization or conscious election on Amax's part to make Essex believe the check had been accepted in accordance with its endorsement. On the contrary, Amax vice-president Clough testified that he was certain Essex had noticed that the check was being held uncashed.

(b) There is no sufficient showing that Essex was induced to settle with Nichols, Continuus and OTT in reliance on Amax's conduct in retaining the check it received from Essex on July 29, 1968. Action in reliance on misleading conduct is action which would not have been taken but for the misrepresentation. In fact, Essex had determined in June 1968, more than a month before it issued the restrictively endorsed check, that it would release any claims it had against Nichols, Continuus and OTT in exchange for their agreement to accept cancellation of the pending order for a machine Essex no longer wanted.

Essex's Other Counterclaims

25. At the trial of this action the defendant withdrew its counterclaims against plaintiff based on alleged fraudulent misrepresentation by Amax and upon an allegedly wrongful refusal by Amax to enter into a joint venture with Essex for an aluminum reduction plant. The two counterclaims must be deemed to have been withdrawn with prejudice.

Judgment to be Entered on Plaintiff's Causes of Action

26. Plaintiff is entitled to judgment:

(a) on Counts I and II of its amended complaint for damagese for breach of contract by the defendant in the amount of $4,090,140.00 and interest thereon at the rate of 6 per cent from May 10, 1968;

(b) on Count III of its amended complaint for damages for breach of contract by the defendant in the amount of $424,898,95 and interest thereon at the rate of 6 per cent from July 25, 1968; and

(c) for costs to be taxed by the Clerk of the Court and, upon allowance, to be included in the judgment.

Dated: New York, N.Y.
February 13, 1974

Paul, Weiss, Rifkind, Wharton & Garrison

by Jay H. Topkis

Attorneys for Plaintiff
345 Park Avenue
New York, N.Y. 10022
(212) 935-8000

Defendant's Proposed Findings of Fact and Conclusions of Law

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

[SAME TITLE]

DEFENDANT'S PROPOSED FINDINGS OF FACT

I. GENERAL BACKGROUND

1. Plaintiff, American Metal Climax, Inc. (hereinafter "Amax), is a New York corporation with its principal place of business in New York City. (Pre-trial Order, p. 2, ¶1)

2. Intalco Aluminum Corporation (hereinafter "Intalco") is a joint venture in which Amax has a 50% interest. Intalco constructed a new aluminum reduction plant near Bellingham, Washington during 1965 and 1966. (Pre-trial Order, p. 3, ¶¶13-14; Tr. 50, 161)

3. Defendant, Essex International, Inc. (hereinafter "Essex") is a Michigan corporation with its principal place of business in Indiana. (Pre-trial Order, p. 2, ¶2)

4. Continuus is an Italian company manufacturing the Model 8 Properzi continuous casting and rolling equipment (hereinafter "the Model 8 Properzi"). A Model 8 Properzi consists of a casting machine and rolling mill which, in essence, starts with molten aluminum and converts it by means of a series of operations into ⅜ inch aluminum rod. (Pre-trial Order, p. 2, ¶¶3, 5; Ex. D-195; Tr. 47-48, 687-88)

5. Nichols Wire & Aluminum Company (hereinafter "Nichols") was the United States agent for Continuus. (Pre-trial Order, p. 2, ¶4)

6. On March 25, 1966, Nichols offered to sell a Model 8 Properzi to Essex subject to certain written conditions. (Ex. D-195) Essex accepted the offer and purchased the equipment for $600,000. (Ex. D-198)

7. The Model 8 Properzi was warranted by Continuus, *inter alia,* to operate at a rate of 14,000 pounds per hour on E.C. aluminum rod. This warranty was limited to twelve months from the date of shipment from Continuus' plant in Italy. (Pre-trial Order, p. 2, ¶7; Ex. D-195, pp. 2, 5; D-199)

8. The Model 8 Properzi ordered by Essex was to be the first of its size, although smaller models (Model 7, Model 6, Model 5, etc.) manufactured by Continuus were in operation in the United States. Essex originally intended to install the Model 8 Properzi at its Paducah, Kentucky plant. (Pre-trial Order, pp. 2-3, ¶8; Tr. 601-02)

II. The Contracts

A. Negotiation of Amax-Essex Contracts

9. In 1965 or early 1966, Essex commenced discussions with a number of primary aluminum producers in the United States in an effort to find a partner for an aluminum reduction plant. Essex approached Amax in this connection in early 1966, and during the course of the discussions which followed it was suggested that since Essex had a Model 8 Properzi on order it might be installed at Intalco's plant near Bellingham, Washington. (Tr. pp. 577-79)

10. On August 5, 1966, Paul O'Malley, President of Essex, met with Stephen Furbacher, President of Amax, and reached a tentative agreement concerning installation

of the Model 8 Properzi at the Intalco plant. The draft of terms agreed upon at that meeting included:

> "4. Amax will manage the facilities and be responsible for the production of coil in the Properzi facility.
>
> 5. Essex, however, will be responsible not only for the installation of the equipment but also for the training of the personnel and debugging of the facility." (Ex. D-95)

This outline of terms was given to the attorneys for Amax to formalize in appropriate written contracts. (Ex. D-96; Pre-trial Order, p. 3, ¶¶9-12, 14-15)

11. Two written agreements, the "Lease Agreement" (Ex. D-1) and the "Supply Contract" (Ex. D-2), both dated December 14, 1966, ultimately resulted. (Pre-trial Order, p. 3, ¶17; Ex. D-1, D-2)

B. Essex's Obligations Under the Lease Agreement

12. Essex had four basic obligations under the Lease Agreement. First, Essex was obligated to install the Properzi at a location in the Intalco plant determined in consultation with Amax. Second, after installation, Essex was obligated to provide adequate training in the operation of the Properzi for the original crew. Third, Essex was responsible for the original "running in" of the Properzi. Fourth, Essex was obligated to give Amax all the technical assistance needed to run the Properzi throughout the life of the Lease Agreement. (Ex. D-1, ¶3)

13. Although Amax had the responsibility under the Lease Agreement to operate the Properzi and although the Lease Agreement itself was silent as to which party had

responsibility during the period between "the original running in of the Properzi" and some later point when it was "operating normally" (Tr. 396-97), the parties subsequently agreed that the Properzi "will be considered operating normal *beyond* the original run in period and become the operating responsibility of Amax when" specified conditions were met. (Ex. P-12, P-13) Thus, in addition to the four obligations expressly set forth in the Lease Agreement, Essex also had responsibility for the Properzi for that period "beyond the original run-in period" until it was "operating normal." (Pre-trial Order pp. 6-7, ¶30)

C. Amax's Obligations Under the Lease Agreement

14. Amax had four basic obligations under the Lease Agreement. First, Amax was to supply the original crew who would be trained by Essex. Second, Amax had responsibility for operating the Properzi. As subsequently agreed by the parties, Amax's operating responsibility did not commence until the Properzi was "operating normally." (Ex. P-12, P-13) Third, once Essex had completed the installation of the Properzi and completed its "running-in" subsequent to that date, Amax was responsible for day-to-day maintenance and for making repairs. Fourth, once the Properzi was "operating normally," Amax had an obligation to commence delivering rod pursuant to the Supply Contract. (Ex. D-1, ¶¶3, 4)

D. Obligations of Both Parties Under the Supply Contract

15. Pursuant to the Supply Contract, Essex agreed to purchase at least 18 million pounds of aluminum rod during each of the years 1968 to 1973 out of the Properzi's output, and Essex had the right, *at its option*, of purchasing up to 25 million pounds in each of those years. (Ex. D-2, p. 1)

16. Amax had no obligation to make deliveries under the Supply Contract until the Properzi was "fully installed by Essex and operating normally." (Ex. D-2, ¶2)

17. Amax had no obligation to deliver rod and Essex had no obligation to purchase rod and no right to demand deliveries if "failure of the Properzi rod processing and related equipment * * * to function properly * * * interfered with production." (Ex. D-2, ¶3)

III. Performance by Essex

A. Installation of the Properzi

18. The Lease Agreement anticipated installation of the Properzi "on or before March 31, 1967." However, delivery of the Model 8 Properzi was delayed through fault of neither Amax nor Essex. (Ex. D-1, ¶4; Pre-trial Order, p. 6, ¶28)

19. Charles Kilburn, an engineer employed by Essex having considerable experience in the installation and start-up of manufacturing equipment, including experience with a Model 5 Properzi, was designated by Essex to supervise the installation of the Model 8 Properzi at Intalco. Kilburn repeatedly complained to Nichols about delay in delivery of the Model 8 Properzi equipment, culminating in a letter dated July 5, 1967 advising Nichols that Continuus' procrastination and re-scheduling of delivery had become intolerable. (Pre-trial Order, p. 6, ¶27; Tr. 592-99; Ex. D-118)

20. Continuus' delay in shipping the Model 8 Properzi was caused by design problems. In December, 1966, some eight months after Essex had placed its order, Continuus was not even sure "what the Number 8 casting machine is

going to look like." (Ex. D-214) As late as June-July, 1967, the secondary cooling system required more experimentation. (Ex. D-239, D-118) The casting molds actually shipped with the equipment in August were "experimental" because Continuus hadn't "finalized on the mold design." (Ex. D-247, D-118; Tr. 608-09)

21. The Model 8 Properzi was shipped by Continuus during the first part of August, 1967. (Ex. D-247) Continuus' twelve-month warranty of the equipment commenced at that time and would expire in early August, 1968. (Ex. D-195, p. 5, ¶7)

22. The initial shipment of equipment arrived on location at Intalco on August 24, 1967, and installation under the supervision of Kilburn commenced at that time. Installation continued through October, 1967. Last minute changes recommended by Nichols were made on October 30 and November 1, 1967. Installation was then complete and the equipment was ready to be operated. (Tr. 612, 618-19; Ex. P-48, p. 8)

23. Amax conceded that the Model 8 Properzi was "installed" within the meaning of the Lease Agreement. (Tr. 207-08)

B. Start-Up and Training of Crew

24. The Model 8 Properzi was started up and operations commenced at the beginning of November, 1967. The first casting was made on November 3, 1967. (Tr. 642-43; Ex. P-48, p. 8)

25. During the start-up phase, four Italian representatives of Continuus were present together with a representative of Nichols, all of whom checked out the electrical and

mechanical parts of the equipment, tried out various components, and made the necessary adjustments. Two of the Italians specialized in the electrical system encompassed in the Model 8 Properzi, and they went over the whole electrical system with the electrical maintenance people at Intalco to show them how the equipment functioned and what adjustments were available. The other two Italians specialized in the mechanical aspects of the Model 8 Properzi, and they instructed the Intalco people as to the functioning of this part of the equipment. After the equipment was checked out, the Nichols representative helped in starting on the initial casting process. (Tr. 640-43; Ex. P-48, p. 8)

26. During the period November 3, 1967 until November 27, 1967, the crew was being trained and experiments were being made with the equipment. Training was under the supervision of Mr. Kilburn, assisted by the four Italians and the Nichols representative. (Tr. 643; Ex. P-48, p. 8, D-155)

27. The start-up phase was completed by the end of November, 1967, in that the electrical system had been adjusted, the mill would operate mechanically without any interference, the casting wheel would function, and each of the various components of the Model 8 Properzi would operate in conjunction with other components. Rod was actually produced on the equipment on November 14, 1967, and by December 11, 1967 one railway car of finished rod, 70,928 pounds, had been shipped to Essex. (Tr. 644-45; Ex. D-155)

C. Equipment Failures Experienced After Start-Up

28. The Model 8 Properzi at Intalco was operated from December, 1967 until it was shut down on May 17, 1968. During that period, rod production was interrupted because of various equipment failures. (Tr. 648; Ex. P-48, D-29)

Def.'s Proposed Findings of Fact and Conclusions of Law

1. *Spout Failures*

29. One equipment problem which repeatedly interrupted production and disrupted operations was failure of the spouts. The spouts furnished by Continuus with the original Model 8 Properzi were made of cast iron coated with a protective material. However, molten aluminum dissolves cast iron and experience soon demonstrated that the cast iron spouts would only last for two or three hours at best. (Tr. 648-49)

30. In December, during the third week of operations, spout problems began to occur. (Ex. D-155) During the week ending December 24, 1967, operations were interrupted by the sudden breakage of a spout, and a stainless steel spout which was substituted then failed after ten minutes. (Ex. D-158)

31. Nichols suggested that others were having some success with ceramic spouts which were then tried at Intalco. Although this solved the problem of the aluminum dissolving the cast iron spouts, a new problem was introduced in that the ceramic spouts were porous which made them aspirate, thereby introducing oxides onto the spout surface. Thus, the substitution of ceramic spouts for the original cast iron spouts merely traded one problem for another. (Tr. 649-50, 668-69)

32. During the weeks which followed, the spout problem continued to disrupt production. (Ex. D-165, D-29) In the final Intalco report dated June 18, 1968, summarizing and evaluating the Properzi's operations over the preceding six months, it was concluded that "the pouring spout problem remains to be resolved." (Ex. D-32) Although the report went on to say that the use of oxidized titanium spouts might provide a solution, such did not prove to be

the case. (Tr. 653-54) Thus, the spout problem was never solved while the Properzi was at Intalco. (Ex. D-32; Tr. 282, 327-28, 648-54)

2. *Mold Failures*

33. A second equipment problem which repeatedly disrupted operations and interrupted rod production related to the molds on the casting wheel. The molds originally shipped by Continuus were experimental because Continuus had not yet finalized the mold design. (Ex. D-247, D-248; Tr. 613-15, 654-656)

34. The original molds were thin-wall molds which caved in, twisted, and otherwise distorted upon use, producing an inadequate casting which could not be used in making rod. (Tr. 655) As late as December, 1967, Continuus was still experimenting with the mold design. (Ex. D-251) On December 14, 1967, Nichols warned Continuus that the molds were "not standing up on a production basis, or for that matter, a semi-production basis." (Ex. D-252, p. 2)

35. On January 16, 1968, Nichols forwarded to Mr. Kilburn drawings reflecting Continuus' "most recent thinking on the No. 8 ring mold." (Ex. D-254; Tr. 624-25, 656) Thereafter, Nichols forwarded its own latest thinking on the ring mold problem and a new Nichols-designed wheel mold arrived on April 3, 1967. (Tr. 657) However, on the first use of the new Nichols mold, the walls deformed and a wavey and cracked casting resulted. (Ex. D-161) Such a casting cracks in the rolling process and any rod produced cannot be coiled or used in any way but rather has to be scrapped—i.e., put back in the furnace. (Tr. 658-59)

36. This mold problem was never resolved while the Model 8 Properzi was at Intalco. (Tr. 283, 660) In the

final evaluation dated June 18, 1968, Intalco concluded that the mold was satisfactory only for production rates up to 11,000 pounds per hour. (Ex. D-32; Tr. 654-61)

3. *Failure of Secondary Cooling System*

37. Directly related to the mold problem, and a primary cause thereof, was a third equipment problem: failure of the secondary cooling system. (Tr. 661-62) When aluminum solidifies from the molten state into a solid, a tremendous amount of heat is given up which has to be dissipated. Also, aluminum shrinks when it solidifies and therefore the rate of cooling must be controlled so that such shrinkage does not cause a cavity in the casting or a break. (Tr. 661-62)

38. The guaranteed production rate of the Model 8 Properzi was 14,000 pounds per hour whereas the production rate of the Model 7 Properzi was 8,000 to 9,000 pounds per hour. (Tr. 665) The real problem with such a high production rate was to dissipate the tremendous amount of heat given off. It was the secondary cooling feature of the Model 8 Properzi which was to perform this function, although the Model 8 Properzi differed from previous models in other respects as well. (Tr. 600-01, 662-67, 728)

39. Delivery of the Model 8 Properzi was initially delayed because Continuus was encountering problems with the secondary cooling system and more experimentation was required. (Ex. D-239; Tr. 613-14) Experimentation by Continuus was continuing in December 1967, and Nichols warned Continuus on December 14, 1967 that customers were losing patience. (Ex. D-251, D-252)

40. In an Intalco report dated December 18, 1967, deformations in the casting wheel caused by cooling problems

were described, and it was reported that Nichols had indicated that all three existing Model 8 Properzis had the same difficulty. (Ex. D-156) The problem continued thereafter. In a report dated May 20, 1968, Intalco noted that operational difficulties were concentrated in the casting spout and wheel and that the casting was cooling too quickly to permit anything other than very slow production rates. (Ex. D-27; Tr. 323-25, 676-77)

41. The final Intalco memorandum dated June 18, 1968 reported that cooling stresses produced cracking in the casting if production rates exceeding 11,000 pounds per hour were attempted, and that the problem of cooling controls had to be remedied before higher production rates could be achieved. (Ex. D-32; Tr. 326-27, 669-71, 677-78)

4. *Emulsion Problems*

42. Another equipment problem which disrupted operations and interrupted the production of rod related to the emulsion. (Tr. 683) After the casting comes off the casting wheel, it is introduced into the rolling mill which reduces the size of the casting as it goes through a series of seventeen rolls. (Tr. 678-79) The emulsion is in the rolling mill and performs two functions: it cools the casting as the latter is being reduced in size and it acts as a lubricant between the rolls and the metal. (Tr. 679, 682)

43. The emulsion is a liquid consisting of tiny particles of water surrounded by an oil film. Although the emulsion would not perform its cooling and lubricating functions if there were too many of these particles or if there were too few, there was initially no way of determining when the particle content of the emulsion was correct. (Tr. 682-83) If the particle content of the emulsion was not correct, the mill tore the casting apart as it went through. (Tr. 683)

44. During the course of operations of the Model 8 Properzi at Intalco, problems of this type with the emulsion were experienced. During the week ending April 21, 1968, it was noted that "the main operational problem was rod breakage in the rolling mill, which was attributed to the emulsion." (Ex. D-164) There were many other instances where problems were experienced because of the emulsion. (Tr. 684) In the final Intalco report dated June 18, 1968, it was noted that "the art of emulsion control will remain a development area." (Ex. D-32; Tr. 330-31, 685)

D. Inadequate Supervision and Maintenance Provided by Amax

1. *Slow Maintenance*

45. In addition to equipment failure, Mr. Kilburn complained to Intalco that his efforts to get the Properzi "operating normally" were being hampered by slow maintenance. (Tr. 647) An Intalco report (Ex. D-140), prepared in response to these complaints by Kilburn (Tr. 197), reflects the following performance by the Intalco maintenance personnel *after eliminating* weekends and holidays: on 8 "emergency" requests for maintenance, the time spent averaged 4.9 hours, but it was 2.50 days on the average before the work was done; on some 16 "immediate" requests, the average time spent was 4.93 hours but it was 2.56 days on the average before the work was done; on 6 "normal" requests, the average time spent was 2.38 hours but it was 3.83 days on the average before the work was done.

46. During a meeting at Intalco on March 8, 1968, Mr. Kilburn once again complained about the "sluggish maintenance pace". (Ex. D-130) Although Intalco ultimately assigned a mechanical maintenance man, Mr. Alf Loney, to the Properzi (Tr. 305), this was not done until early May,

1968, following a meeting between Intalco and representatives of Nichols. (Tr. 196, 317-18)

47. Although Intalco management contended that its maintenance efforts were being hampered by a lack of machine drawings, the need for a spare parts list, and a shortage of actual spare parts (Tr. 186-87) and had asked Mr. Kilburn to supply these items (Tr. 223-24), Intalco management did not know what efforts, if any, Mr. Kilburn had made to obtain them. (Tr. 223-25)

48. In fact, Mr. Kilburn had continuously been endeavoring to obtain maintenance and design drawings from Continuus and Nichols. (Tr. 626-33) Commencing as early as August, 1967, Mr. Kilburn had requested these drawings (Ex. D-215, D-216), but the blueprints were not included in the crates with the equipment (Ex. D-217; Tr. 629-30) and the initial set of drawings were not forwarded to Mr. Kilburn until November 30, 1967. (Ex. D-218; Tr. 630-31) The drawings were given by Mr. Kilburn to Intalco management as soon as Mr. Kilburn received them (Ex. D-184; Tr. 631-32), but the blueprints were forwarded to Mr. Kilburn in installments (Ex. D-219, D-221, D-222) and the set of maintenance and assembly drawings was not complete until April 30, 1968. (Ex. D-222; Tr. 632)

49. Mr. Kilburn had likewise been engaged in continuous efforts to obtain a list of spare parts and an inventory of spare parts. (Tr. 633-39) Nichols forwarded its initial recommendation on spare parts on January 30, 1967 (Ex. D-224), and Essex ordered these parts on March 6, 1967 (Ex. D-225). Throughout the summer of 1967, Mr. Kilburn continued to request a spare parts list from Nichols, and Kilburn ordered spare parts as soon as Nichols made a recommendation. (Tr. 635) Actually, the spare parts ordered by Essex in March, 1967, were not shipped until December, 1967. (Ex. D-232) In early Janu-

ary, Kilburn telephoned Nichols and was "very irate" because he still didn't have a spare parts manual. (Ex. D-[illegible]) By March 8, 1968, notwithstanding these efforts by Kilburn, the necessary spare parts had still not been received. (Ex. D-130; Tr. 638-39)

2. *Inadequate Supervision*

50. The efforts of Kilburn to get the Properzi "operating normally" were also hampered by the inadequate supervisory personnel supplied by Amax. (Tr. 690) Supervision is particularly important in operating the Model 8 Properzi at a high production rate because the four phases of the Properzi operation (preparation of hot metal in the furnaces, casting on the wheel and mold, reduction of the casting in the rolling mill to rod, and operation of the coiler) have to be coordinated. (Tr. 687-88)

51. In July, 1967, well before operations at Intalco commenced, the President of Amax asked Paul Hoboy, head of Amax's aluminum technical services group (Tr. 310), to make recommendations with respect to the future operation of the Properzi at Intalco. Hoboy responded (Ex. D-121):

> "* * * establishing the proper operating temperatures, speeds, cooling rates, chemical composition of the aluminum and other technical aspects and requirements will require a great deal of attention. *We would be well advised to find metallurgical talent with experience on this particular equipment.*" (Ex. D-121, p. 3) (Emphasis added)

52. Notwithstanding this recommendation, Intalco made no effort whatsoever, in selecting people to work on the Properzi, to hire someone who had prior experience in the operation of Properzi equipment. (Tr. 310) Ian Mac-

Donald, the man at Intalco in charge of staffing the Properzi project (Tr. 293-98), was never advised of Hoboy's recommendation (Tr. 311), and MacDonald did not even look into the question of whether there were any people available who had experience on earlier Properzi models. (Tr. 311, 313-14)

53. Kilburn experienced a variety of problems in operating the Properzi because of a lack of adequate supervision. (Tr. 690-91) On one occasion, the off-shift supervisor neglected to check the thermocouples on the furnace, and the following morning it was discovered that the aluminum in the furnace had frozen solid. (Tr. 691) Another time all of the oil in the lubrication system was pumped into the sewer because someone left a valve open. (Tr. 691) Once, the supervisor left the casting equipment to attend a safety meeting and while he was gone the lead man let half the crew go to lunch at the same time. When trouble occurred with the casting wheel, there was inadequate manpower available to cut the casting and shut the equipment down. (Tr. 691-92)

54. On another occasion, the crew supervisor failed to follow the check list when starting up the equipment, and as a result the emulsion ran into the lubricating oil and it was necessary to pump it all out. (Tr. 692-93) Another time one of the supervisors left to attend an English class and neglected to arrange for a tank truck to come to pump out the emulsion. (Tr. 693-94) On a different occasion, a pump was brought for the emulsion (after a delay of over an hour) but the operator didn't have starter rope which was needed to start the gasoline engine on the pump and it took another hour and a half to find a rope. (Tr. 694-95)

55. The engineer assigned by Intalco to work on the Properzi and provide technical assistance to Mr. Kilburn

was C. K. Li. (Tr. 293) Kilburn tried to work through Li because Kilburn was told that Li was the man responsible for seeing that things got done. (Tr. 690) However, Kilburn complained that Li's abilities were strictly technical, and he didn't seem to be able to command people on the job with the dispatch that a direct supervisor should. (Tr. 690)

56. Representatives of Nichols came to the same conclusion with respect to Mr. Li. Paul Raiford, a Vice President of Nichols who made several trips to Intalco in connection with operations of the Properzi, met with Jean Loyer, President of Intalco, during the course of a visit on April 10-12, 1968. (Raiford Deposition Transcript, Ex. D-732, p. 59) The purpose of this meeting was to suggest steps that should be taken to improve the operation of the Properzi, and Raiford recommended that Li be replaced because he lacked leadership. Loyer agreed and directed that Li be relieved. (Ex. D-732, p. 59) Amax was well aware of Nichols' conclusion that there was a "supervision problem" at Intalco. (Tr. 96-99)

E. Efforts to Get Properzi "Operating Normally"

57. In an effort to get the Model 8 Properzi installed, run-in, and operating normally, Mr. Kilburn spent 111 work days at Intalco between August 1967 and May 1968. Representatives of Nichols spent 33 work-days at Intalco. Four Italian representatives of Continuus spent an additional 64 work-days at Intalco. (Ex. P-48, pp. 8, 10) Over and above installation costs, Essex spent nearly $90,000 in an attempt to get the Model 8 Properzi to operate at the 14,000 pounds per hour rate guaranteed by Continuus, and devoted more than 1,000 man-hours of top management personnel to this task. (Ex. P-2, P-29)

58. Mr. Kilburn, in a sustained effort to make the Model 8 Properzi operate at the guaranteed rate, repeatedly harassed Nichols and Continuus for maintenance drawings, parts lists, and a reserve of spare parts. (Proposed Findings 47-49, *supra*) Scores of equipment or design defects were remedied through corrective action. For example, to minimize the effect on the casting of the 25° angle between the casting wheel and the mill recommended by Continuus (and questioned by both Kilburn and Li) (Tr. 639-40), rollers were added to the caster and a pole was attached to the conveyor in order to bend and align the casting before its entrance into the rolling mill. (Ex. P-48, p. 19; Tr. 266-73) Press-down rollers were added in front of the quenching box. (Ex. P-48, pp. 19, 41) The marinite box and hot-metal flow system built by Hunter was discarded when it proved inadequate, and a stationary insulated trough with ceramic spout and stainless steel float with screen installed in its place. (Ex. P-48, p. 19)

59. After determining that the variation of the temperature of the casting before it entered the mill was one of the causes of rod breakage, the casting temperature was reduced. (Ex. P-48, pp. 39-40) The problem in the No. 17 stand of the rolling mill which caused the rod to be pushed rather than rolled through the stand was repaired. (Ex. P-48, p. 36). The amount of reduction in various stands was adjusted. (Ex. P-48, p. 38) The problem with speed synchronization between the casting wheel, conveyor and the mill was corrected. (Ex. P-48, p. 34) A side-wall spray system for the casting wheel was designed and installed. (Ex. P-48, pp. 41, 44, 47, 50) Heat insulation for the flow control pin in the spout was introduced. (Ex. P-48, p. 41) A cropping shear on the coiler was installed and adjusted as a means of controlling cobbles. (Ex. P-48, pp. 44, 52)

60. A new Nichols-designed wheel mold was installed and tried. (Ex. P-48, p. 48; Ex. D-161) Nichols was repeatedly consulted. (Ex. P-48, pp. 8, 10) All suggestions made by Nichols were followed. (Ex. D-731, p. 83) Mobil was consulted on emulsion problems. (Tr. 684; Ex. D-164) Assistance from the spout manufacturer was obtained in connection with the problem of oxide formation. (Ex. P-48, p. 40)

F. Failure of Properzi to "Operate Normally"

61. Notwithstanding all such efforts, by May 1, 1968, after more than five months of operations, the Model 8 Properzi had not even approached its guaranteed production rate. During the course of operations over this period, the Model 8 Properzi had averaged only 1,831 pounds of rod per production hour, and on April 1, 1968 when the Properzi was operating at its best it averaged only 11,000 pounds per hour over a seven-hour period. (Ex. P-2, P-29) Essex and Amax agree that the Properzi was never "operating normally" as that term had been defined. (Tr. 207-08)

62. The Properzi never reached the point of "operating normally" because of equipment failures, combined with inadequate maintenance and supervisory support by Intalco. (Ex. D-32, P-29, D-140; Proposed Findings 28-60, *supra*)

G. Nichols Offer of May 2, 1968

63. On May 2, 1968, Nichols forwarded to Essex a proposed contractual arrangement under which Nichols personnel would endeavor to make the Model 8 Properzi operate normally. (Ex. P-24) However, this proposed contract only guaranteed a production rate of 12,600 pounds per hour "while operating" and defined an operating hour as

only that period when the coiler was in operation. Such a definition of "while operating" eliminated all down-time caused by spout problems, mold difficulties, or cooling failures because the coiler would not be operating at such times. (Tr. 392-93, 491-93, 697-99)

64. The Nichols proposed contract of May 2, 1968 also guaranteed that over a two-week period total rod production would be 750,000 pounds on a two-shift basis. Assuming a production rate of 12,600 pounds per hour while operating as defined by Nichols, this meant that over a two-week period Nichols was guaranteeing that the Properzi would be operating only approximately 37% of the time (12,600 pounds/hour times 160 hours over two weeks divided into 750,000 pounds).

65. The Nichols proposal also meant that only 19,500,000 pounds of rod would be produced yearly, assuming that the Properzi produced 750,000 pounds every two weeks for 52 weeks a year which gives no consideration to vacation time or down-time caused by equipment failures. Such production would be insufficient to enable Amax to meet its obligations under the Supply Contract because Essex was entitled to 25 million pounds of rod per year. (Ex. D-2)

66. The Nichols proposed contract of May 2, 1968 also assumed that Nichols was supplied "with adequate metal, mechanical and electrical maintenance, and both supervisory and hourly personnel * * *" Essex's experience at that time was that there was a lack of precisely this type of support. (Tr. 393, 699)

67. Under the circumstances, the proposed contract offered by Nichols amounted to a concession that they couldn't operate the machine up to specifications. (Tr. 394)

To Essex, this was the "crowning blow" (Tr. 392), and Essex rejected the proposal. (Tr. 394, 700)

68. On May 16, 1968, Nichols made the identical offer to Amax. (Ex. D-20) Amax likewise rejected the proposal. (Tr. 117-18)

IV. Termination of Contracts by Essex

69. After evaluating and rejecting the Nichols proposal of May 2, 1968, James Dunstan, the Vice President of Essex having responsibility for the Properzi operation at Intalco (Tr. 382-83), met with Paul O'Malley, President of Essex, and Tom Seifert, Associate General Counsel of Essex. During the course of two meetings, one in Fort Wayne and the other in Marion, Indiana, the decision was reached to terminate the two contracts with Amax and remove the Properzi. (Tr. 394-95, 526-28, 583) Although Mr. Kilburn did not attend these meetings he was consulted at that time by Mr. Seifert. (Tr. 528)

70. On May 10, 1968, Essex notified Amax by letter that, pursuant to the last sentence of paragraph 3 of the Lease Agreement, the Properzi failed to live up to its specifications, and Essex intended promptly to remove the Properzi and related machinery and restore the site. Essex added that Kilburn had been directed to go immediately to Intalco and begin removal. The letter also noted that such removal would also terminate the Supply Contract since the latter was premised upon the operation of the Properzi at Intalco. (Ex. P-29)

71. Amax responded in a letter dated May 17, 1968. (Ex. P-31) Amax denied that the Properzi had failed "to live up to specifications" and asserted that Nichols had offered to make the equipment meet specifications and per-

form satisfactorily. Amax further contended that Essex did not have the right to decide unilaterally that the Properzi had failed. Amax also contended that Essex did not have the right under the circumstances to remove the Properzi or related machinery from the present site at Intalco "*without the agreement of*" *Amax.* (Ex. P-31) Because of this latter statement, Essex concluded that Amex intented to file an injunction suit when Mr. Kilburn endeavored to remove the Properzi. (Ex. P-32; Tr. 564)

72. On May 24, 1968, Essex responded that Nichols had not assured Essex that it could make the Properzi meet specifications, that the Properzi had in fact failed, that Essex was required under the contract to make a good faith effort to get the Properzi operating at the specification rate, but that Essex had fulfilled this obligation and now had the right to remove the equipment. (Ex. P-33)

73. On May 29, 1968 Amax responded to this second letter from Essex. In essence, Amax denied the statements set forth in Essex's letter, but added that it would be glad to meet with Essex to discuss the situation. (Ex. P-34)

V. Removal and Subsequent Boonville Operation

A. Removal of Properzi from Intalco

74. On Monday, June 24, 1968, Kilburn arrived at Intalco to commence removal of the Properzi. (Ex. D-583; Tr. 701) However, the Intalco plant superintendent approached Mr. Kilburn and asked him to refrain from removing the Properzi until the matter could be checked out. (Tr. 701-02) The Intalco plant superintendent returned after lunch the same day and advised Kilburn that it was all right and that Kilburn could go ahead with the removal.

(Tr. 702) Mr. Kilburn and a crew then entered the Intalco plant, and dismantling of the Properzi began. (Tr. 119-20, 332-34) Removal was completed in July, 1968 (Tr. 335)

B. Operations at Boonville

75. After the Model 8 Properzi was removed from Intalco, it was stored temporarily while Essex completed construction of a plant at Boonville, Indiana. (Tr. 703) Thereafter, Kilburn was responsible for the installation of the Model 8 Properzi at Boonville. (Tr. 703) Installation at Boonville was finished by the last of March or the first of April, 1969. (Tr. 706-07)

76. In installing the Model 8 Properzi at Boonville, a number of changes were made in the equipment. Some of the changes were suggested by Nichols, some originated with other operators of Model 8 equipment although they tried to hide their innovations (Tr. 152-54), and some were developed independently by Mr. Kilburn. (Tr. 720-21, 731)

77. First, the secondary cooling systems had to be redesigned in its entirety. (Tr. 727) No operator of a Model 8 Properzi in the United States has ever been able to make the original secondary cooling system work. (Ex. 726-27; Ex. 731, pp. 86-87) Redesign of the cooling system consisted of the introduction of new side roll manifolds because Continuus had provided for no external cooling on the original equipment. (Tr. 672) Thus, Mr. Kilburn rearranged, increased, and wholly redesigned the cooling system so that jets of water pinged on the casting wheel at an angle. (Tr. 672-73) This design change originated with Mr. Kilburn, not Nichols or any other operator of a Model 8 Properzi, although other operators likewise had to make some adjustment in the cooling system before the Model 8 Properzi would function. (Tr. 731)

78. Second, Mr. Kilburn increased the size of the cavity on the casting wheel and also increased the diameter of the casting wheel. This change was made by other operators of Model 8 equipment as well. (Tr. 674)

79. Third, there is a metal belt on the casting wheel which holds the hot metal being cast against the mold and forms the fourth side of the mold. The metal belt was held in place by a pressure roller. (Tr. 704) This device was modified by Mr. Kilburn in that the pressure roller was removed and adjusted so that the metal belt didn't actually touch the wheel but came within a few thousands of an inch of touching it. (Tr. 672, 704) This change kept the wheel from grabbing the casting as it was being formed which produces a crack and ruins the casting. (Tr. 672, 704) This modification was suggested by Nichols based upon the experience of other operators. (Tr. 721-22)

80. Fourth, the whole pouring control mechanism in the tundish was modified. (Tr. 704-05) Continuus originally had a remote control mechanism which operated a pin in the top of the spout and acted as a valve in controlling the flow of hot metal on to the casting wheel. (Tr. 705) Mr. Kilburn changed the spout so that it would operate with no valve at all and this required a complete change in the tundish design, in addition to changing the tundish material from cast iron to ceramic-lined masrock. (Tr. 705)

81. Fifth, Mr. Kilburn changed the spout so that it formed a restriction, operated with no valve at the top, had a static head at all times, and therefore could not aspirate so as to form oxides. (Tr. 705) This change in the spouts had been developed by the manufacturers of spouts between the time the Properzi was removed from Intalco (Ex. D-32)

and the time it was installed at Boonville. (Tr. 721) Kilburn also contributed to this solution of the spout problem. (Tr. 731)

82. Sixth, Mr. Kilburn changed the position of the external cooler which regulated the temperature of the casting between the time it came off the casting wheel and before going into the rolling mill. (Tr. 705-06)

83. Seventh, Mr. Kilburn developed an anti-cobbler, a device which stopped the rolling mill when a cobble occurred, thereby limiting the cobble to two or three stands in the mill rather than all seventeen. (Tr. 706) This was an addition developed by Mr. Kilburn and was not suggested by Nichols or anyone else. (Tr. 731)

84. Start-up began at Boonville approximately April 1, 1969. (Tr. 706-07) Three representatives from Nichols were present at this time because the Boonville crew had never worked in any type of a hot metal operation. In operating a Model 8 Properzi, there are three dangerous areas involving hot metal—control of the metal as it comes out of the furnace, control of the metal as it is poured on to the casting wheel, and control of the hot casting as it is inserted into the mill. Since Mr. Kilburn was the only person at Boonville with experience, he needed these experienced Nichols representatives to stand over the Essex people's shoulders to show them what to do. (Tr. 707) The Nichols people remained for about ten days. (Tr. 707) The same supervision had been given by Nichols and the Italians when the Model 8 Properzi started up at Intalco in November, 1967. (Tr. 641-43; Proposed Findings 25-26, *supra*)

85. After a month or so of operations at Boonville, the Model 8 Properzi was operating satisfactorily in the sense

that there were no insurmountable problems. Although it wasn't up to top production at that time, it was just a matter of experience of the crew. (Tr. 719) Ultimately Mr. Kilburn was able to get the Model 8 Properzi to operate at a rate of 14,000 pounds per hour, recognizing that no machine ever runs continuously and there is always downtime. (Tr. 673-74)

VI. Breach of Lease Agreement by AMAX

A. Responsibility for Maintenance and Repairs

86. Amax was obligated under the Lease Agreement to provide day-to-day maintenance and repairs for the Model 8 Properzi "from the completion of the installation of the Properzi * * * and its running-in subsequent to that date." (Ex. D-1, ¶4) Thus, Amax's obligation to provide maintenance and repairs commenced once "running-in" was completed.

B. Definition of "Running-In"

87. The Lease Agreement uses both the term "running-in" and also the term "operating normally". (Ex. D-1, ¶3-4) In formulating a definition of "operating normally" in January, 1968, Essex proposed:

> "The Properzi will be considered operating normal *beyond* the original run in period and become the operating responsibility of Amax when * * *" (Ex. P-12) (Emphasis added)

Amax agreed with this definition. (Ex. P-13) Thus, it is clear that "running-in" was intended to mean an operational status which was completed at some point in time *before* the Properzi was "operating normally".

88. The initial draft agreement prepared by Amax following the original negotiating sessions with Essex on August 5, 1966 contained the term "de-bugging" rather than "running-in". (Ex. D-95, D-96; Proposed Finding 10, *supra*) The substitution of the words "running-in" for "de-bugging" supports an interpretation that the words were intended to refer to an initial testing and checking process.

89. The meaning of "running-in" to engineers and professional people, as reflected in technical dictionaries (Tr. 373), likewise confirms that an initial testing and start-up procedure is meant because the word is defined in terms of the operation of new machinery "for the detection of faults", "under light load for some time to allow proper clearances to become established", and for testing by the manufacturer "before delivery".

90. Finally, the Lease Agreement not only uses both the terms "operating normally" and "running-in" in the same sentence, but also uses each term separately in conjunction with "installation". (Ex. D-1, ¶¶3-4) If the parties had intended the completion of "running-in" to be synonymous with "operating normally" there would have been no reason to use both terms. (Tr. 385-86)

91. Under all the circumstances, "running-in" was intended by the parties to refer to a testing and de-bugging process designed to make sure that each phase of the Model 8 Properzi (casting of the hot metal, rolling of the casting, coiling or collecting the resulting rod) would operate separately and in conjunction with the other phases. "Running-in" is complete at a point in time when the equipment can be made to produce rod, but *before* operating techniques and crew expertise have developed to the point that the equipment is "operating normally" at rates approaching the maximum guaranteed rate of operation. (Tr. 385-86, 644-45)

C. Completion of "Running-In"

92. The first casting was made on the Properzi at Intalco on November 3, 1967. Aluminum rod was first produced on November 11, 1967. (Ex. P-48, p. 8) By December 11, 1967, over 70,000 pounds of finished rod had actually been shipped to Essex. (Ex. D-155) Thus, at this point the Model 8 Properzi would produce rod, and the "running-in" by Essex had been completed. In any event, by May 17, 1968, when operations terminated completely, shipments of finished rod to Essex totalled approximately 2,100,000 pounds. (Ex. P-103) Therefore, at some point during this time frame, the "running-in" by Essex had certainly been completed.

D. Breach by Amax

93. Although Amax's responsibility for providing day-to-day maintenance and repairs commenced when this "running-in" was completed by Essex, Amax *never at any time* in fact assumed this responsibility. Quite to the contrary, Amax billed Essex for this maintenance and repairs on a monthly basis. (Ex. P-103; Tr. 92)

94. Essex repeatedly protested these bills for maintenance. (Ex. P-12, p. 2, ¶3; P-14) Amax consulted its lawyers (Ex. D-319, ¶3), but continued to dun Essex. (Ex. P-13, P-103) Essex sent its accountant to Intalco in late April to review this situation, and he likewise concluded that "Essex is not liable for the general maintenance overhead", that as to the fixed cost allocation "we do not feel these should be billed or paid" by Essex, and that "the same principles apply" to maintenance charges. (Ex. D-7, D-8; Tr. 398-400) As late as June 25, 1968, Amax was still billing Essex for these maintenance charges (Ex. D-11), and Essex was still responding that the controversy over

the maintenance and other aspects of the fixed charges had "never been resolved to our satisfaction." (Ex. P-19)

95. In addition, under all the circumstances, the maintenance efforts provided by Amax, and improperly billed to Essex, were sluggish and inadequate, and the supervision was deficient. (Proposed Findings 45-56, *supra*)

VII. Essex's Right to Remove the Properzi from Intalco

96. Essex had the right under the Lease Agreement to remove the Properzi from Intalco under two circumstances. First, paragraph 3 of the Lease Agreement provided:

> "Should the Properzi fail to live up to specifications, Essex promptly will fix or remove the Properzi and restore the site." (Ex. D-1, ¶3)

Second, the Lease Agreement further provided as follows:

> "7. Amax agrees as follows: * * * (d) to permit Essex to enter the Ferndale plant and take possession of the Properzi and remove it in the event of any breach by Amax of any of its agreements herein * * *" (Ex. D-1, ¶7(d))

97. Both parties have agreed that the Properzi failed to live up to specifications and never reached the point that it was "operating normally". (Tr. 207-08) Essex was precluded from meeting this obligation because of design inadequacies and equipment failures, compounded by sluggish maintenance and ineffectual supervision by Intalco. (Proposed Findings 28-56, *supra*)

98. Under the circumstances, Essex did all that could be reasonably expected of it in an effort to meet its obligation under the Lease Agreement of getting the Model 8 Properzi at Intalco "operating normally". The design

and equipment changes made at Boonville in March-April, 1969 (Proposed Findings 75-85, *supra*) were not known or reasonably available to Mr. Kilburn in May, 1968, when the Amax contracts were terminated. They were likewise not known to Nichols because Mr. Kilburn made every modification or change in the Model 8 Properzi which was suggested by Nichols during the period that the equipment was located at Intalco. (Ex. D-731, p. 83)

99. All of these changes in equipment or design, whether originated by Mr. Kilburn, suggested by Nichols, or originated by others but relayed to Mr. Kilburn by Nichols, were different from the original specifications for the Model 8 Properzi supplied by Continuus. (Tr. 340-41, 732-733) Absent these changes in design and specifications, the Intalco Properzi, which was the "prototype" model (Ex. 732, p. 85; Ex. 731, p. 88), could never have been made to function at the guaranteed operating rate. (Tr. 725, 732)

VIII. Post-Termination Settlement Negotiations

A. Pending Disputes with Amax, Nichols, Continuus and OTT

100. After terminating the Lease Agreement and Supply Contract in May, 1968, Essex found itself embroiled in four separate controversies—two with Amax and two with Nichols and Properzi.

101. First, Amax had denied that the Model 8 Properzi at Intalco had failed to live up to its specifications, Amax had asserted that Essex had no right to remove the Properzi, and Essex was concerned that an injunction suit or other legal proceeding might be instituted by Amax. (Ex. P-31, P-32)

102. Second, Amax and Essex had never resolved the long-standing dispute over metal costs, maintenance charges, and the allocation of fixed costs. (Proposed Findings 93-94, *supra*)

103. Third, Continuus had guaranteed that the Model 8 Properzi would meet its specifications, including an operating rate of 14,000 pounds per hour. This guaranty would expire in early August, 1968. (Ex. D-195, pp. 2, 5, D-247) Having removed the Properzi from Intalco because it failed to live up to its specifications, Essex had a claim against Nichols and Continuus based upon Continuus' guaranty. (Tr. 432-33)

104. Fourth, in May, 1967, Essex had placed an order with Nichols for the purchase of a second Model 8 Properzi to be manufactured by Continuus and to be installed at Essex's Paducah plant. (Pre-trial Order, p. 7, ¶34). At that time, Essex intended to have one Model 8 Properzi at Intalco and the second one at Paducah. However, if Essex removed the Intalco Properzi, as it intended to do, it would then have two Model 8 Properzis whereas it had use for only one. (Tr. 514-15) Thus, Essex needed either to cancel the second Properzi and OTT coiler then on order, or to dispose of the Intalco Properzi by selling it to Amax or someone else. (Tr. 514, 416-17)

105. Following the termination of the two Amax contracts in May, 1968, Essex commenced negotiations with Amax to dispose of the first two controversies, and simultaneously commenced negotiations with Nichols, Continuus and OTT to dispose of the third and fourth controversies. (Tr. 400-02, 403-08, 432)

B. Contemporaneus Settlement Negotiations

106. On June 7, 1968, Essex sent a letter to Nichols asserting a claim under the guaranty covering the Properzi at Intalco. (Third Controversy) Essex requested to meet with Nichols and Continuus in order "to arrange for the satisfactory disposition of the machinery". Essex also warned Nichols and Continuus that it would not accept the second Properzi which was scheduled for shipment in July, 1968 unless it received appropriate warranties. (Fourth Controversy) (Ex. P-2; Tr. 402-08)

107. On June 10, 1968, representatives of Essex and Amax met in Detroit to discuss their differences with respect to the Intalco Properzi, and in particular, to discuss the possibility of Essex selling the Model 8 Properzi to Amax. (First Controversy) Essex offered to sell the Model 8 Properzi to Amax in place and installed for $1.4 million, and Amax offered to purchase it for $850,000 on the assumption that the Supply Contract would be terminated. No agreement was reached. (Tr. 59-61, 400-01)

108. In evaluating Essex's offer to sell the Properzi, Amax asked Intalco to make a determination of whether the equipment was functionally sound. (Tr. 107, 272, 329-31) Intalco prepared a lengthy report in response to this inquiry which reflected the views of all Intalco people connected with the Properzi project. (Ex. D-32) This Intalco report concluded that the pouring spout problem remained to be resolved, that the art of emulsion control remained a development area and that there was no satisfactory method for establishing the criteria of a good emulsion, that they had not been able to develop a practice which would produce a sound casting beyond an operating rate of 11,000 pounds per hour, and that the absence of cooling control would have to be remedied in order to permit casting beyond this operating rate. (Tr. 107-10)

109. On June 17, 1968, Dunstan of Essex telephoned Clough of Amax to discuss further the possibility of Amax purchasing the Properzi from Essex. (First Controversy) (Ex. D-40) However, Dunstan would not reduce the Essex offer of $1.4 million and Clough would not increase the Amax offer of $850,000. (Tr. 101) This proved to be the final position of the parties. (Tr. 101)

110. On June 21, 1968, Essex m with Nichols at O'Hare Airport in Chicago. (Tr. 404) Essex complained to the Nichols people that the Intalco Properzi would not and could not live up to the warranty and thus Essex wanted its money back. (Third Controversy) (Tr. 406-07) Essex again threatened to cancel its order for the second Properzi (Fourth Controversy) (Ex. P-28), and advised Nichols that Kilburn was scheduled to go to Intalco the following Monday, June 24, 1968, to commence dismantling and removing the Intalco Properzi. (Tr. 408-09)

111. On June 24, 1968, Mr. Kilburn went to the plant at Intalco, and Intalco, after checking with Amax, allowed him to enter the plant with a crew. In that Amax previously said Essex could not remove the Properzi without the agreement of Amax (Ex. P-31), Kilburn then telephoned Dunstan to report that Amax had agreed to removal by Essex, and that he was proceeding to do so. (Tr. 409-10, 701-02)

112. At this point, Essex found itself with two Model 8 Properzis on its hands—one coming back from Intalco which Dunstan wanted to return to Continuus (Tr. 410) and a second on order. At most, Essex only needed one. (Tr. 514-15) Thus, on June 25, 1968, the day following Kilburn's entry, Dunstan sent a letter to Nichols advising Nichols that Essex was cancelling its order for the second

Model 8 Properzi and the affiliated OTT coiler. (Fourth Controversy) (Ex. D-274; Tr. 410-11)

113. This letter crossed in the mail with a letter of the same date from Nichols in which Nichols urged Essex to release Nichols, Continuus and OTT from all claims arising from operation of the equipment at Intalco (Third Controversy), in return for cancellation by Continuus and OTT of the second Properzi and coiler, and repayment to Essex of its down payments. (Fourth Controversy) (Ex. P-26; Tr. 411)

114. A. On June 25, 1968, Amax wrote to Essex, once again complaining that Essex had only paid approximately $208,000 out of $660,000 billed by Amax for hot metal used by the Intalco Properzi and for maintenance and other costs relating to the Intalco Properzi. (Ex. D-11) (Second Controversy)

115. On June 28, 1968, Essex responded to Nichols' settlement suggestion of June 25, 1968. At this point, Kilburn was in the Intalco plant removing the Properzi, and Essex thought the First Controversy had been resolved. Essex advised Nichols that Essex would release Continuus, OTT and Nichols from any claims arising from the Properzi operation at Intalco (Third Controversy) *if* Continuus and OTT would cancel the pending orders for the second Properzi and affiliated coiler *and* return the down payments which Essex had already made. (Fourth Controversy). (Ex. D-276; Tr. 412)

116. On July 3, 1968, Nichols advised Essex that it would recommend to Continuus and OTT that they accept the Essex proposal of June 28, 1968 *provided* that down payments be returned only when the second Properzi and coiler had been sold to new customers. However, Nichols

reported that it had *already* received strong indications from OTT that OTT would *not* accept such a recomendation from Nichols, and also that Nichols had *not* received any favorable comments from Continuus on the subject. (Ex. P-28)

117. On July 5, 1968, Essex responded to Amax's letter of June 25, 1968, concerning the long-standing Second Controversy. Essex indicated that "$384,908.95 has basis in fact", but that the remaining $67,830 of fixed charges, including maintenance, had never been resolved to Essex's satisfaction. (Ex. P-19) Dunstan suggested that he and Clough of Amax meet one more time in an effort to compromise this last dispute. (Ex. P-19; Tr. 418)

118. On July 9, 1968, Nichols confirmed that OTT would not accept the Essex proposal of June 28, 1968 even if the Nichols modification of June 3, 1968 was acceptable to Essex. (Ex. D-279) Essex telephoned Nichols upon receipt of this telex to indicate that Essex was not willing to take any action unless it was able to settle "the whole deal"—that is, the Model 8 Properzis, the OTT coiler on order, and Nichols' commission on the sales. (Ex. D-279; Tr. 416-17)

119. On July 25, 1968, Messrs. Dunstan and Seifert of Essex met with Clough of Amax at Amax's offices in New York. (Tr. 64, 418-19, 530) Clough and Dunstan discussed the long-standing dispute over maintenance and fixed costs, the fact that both companies had lost money in connection with the Intalco Properzi, the fact that Essex had now removed the Properzi from Intalco, and that it was too bad that the situation had not been worked out. (Tr. 64-66, 122-23, 420-21, 531 32) Ultimately Dunstan and Clough agreed that Essex would pay to Amax $424,898.95 in settlement of Amax's previous billings for hot metal at In-

talco, direct and indirect maintenance, and various fixed costs. (Tr. 66, 422-23) In that Amax had allowed Essex to remove the Properzi from Intalco's plant without protest, Dunstan was under the impression that these old billings represented the only dispute then pending with Amax. (Tr. 511-12, 561) Dunstan and Clough also discussed future purchase of billet by Essex from Amax. (Tr. 123, 420, 532) Dunstan indicated to Clough that Essex wanted to settle its disputes with Amax completely, and that he was trying to wipe the slate clean so that Essex could continue its good relations with Amax in the future. (Tr. 420-21)

120. Also on July 25, 1968, immediately following the meeting with Clough of Amax, Dunstan and Seifert met with Nichols and its attorneys. (Tr. 423, 533) Dunstan and Seifert advised the Nichols representatives that the Intalco Properzi had not met the guaranty of 14,000 pounds per hour and that Essex had a claim against Nichols and Continuus because of this failure. (Third Controversy) The legal positions of the parties were discussed. Dunstan and Seifert also advised the Nichols people that Essex wanted to cancel its order for the second Properzi. (Fourth Controversy) During the course of the meeting, an effort was made to telephone either Continuus in Italy or OTT in France but the call could not be completed. No agreement was reached at this meeting. (Tr. 423, 533-36)

121. Immediately following the meetings on July 25, 1968, Dunstan and Seifert returned together to Fort Wayne. While on the plane Dunstan and Seifert talked about the two meetings, agreed that the meeting with Clough had resulted in a final settlement—that the slate had been wiped clean with Amax. (Tr. 425, 537) Dunstan requested that Seifert forward a check to Clough in the amount of $424,898.95 pursuant to the agreement which had been reached, and Seifert suggested that an endorse-

ment be put on the reverse side of the check referring to full and final settlement, "just to tie down any loose ends". (Tr. 425, 537) Dunstan agreed that this was a good idea because it was his understanding that there was a full and final settlement. (Tr. 425)

122. The next day, July 26, 1968, Seifert forwarded a check to Clough in the amount of $424,898.95. The covering letter read as follows:

> "Pursuant to our agreement reached Thursday, July 25, 1968, enclosed please find Essex's check for $424,898.95 in full settlement of all disputes arising from the Bailment Lease Agreement and the Purchase and Sale Agreement, both dated December 14, 1966, between Essex and Amax." (Ex. P-21)

On the reverse side of the check appeared the same statement. (Ex. P-21) These statements confirmed the understanding that both Seifert and Dunstan thought had been reached at the meeting with Clough on July 25, 1968. (Tr. 426, 549-50)

123. On July 29, 1968, the Monday following the Thursday meeting of July 25, 1968, *before* receiving the letter and check mailed by Seifert, Clough circulated a memorandum throughout the Amax organization alerting the recipients that Essex was about to forward a check covering metal and maintenance costs, and warning them that they should make sure the check was not qualified as being "in full and final settlement". (Ex. D-46) Notwithstanding the concern expressed in this memorandum, Clough insisted that neither Dunstan nor Seifert had said anything at the meeting of July 25, 1968 which implied that Essex was going to send a check in full settlement. (Tr. 126-27)

124. Upon receipt of Seifert's letter dated July 26, 1968 and the enclosed check, Clough noted Essex's reference to "our agreement reached Thursday, July 25, 1968" that the $424,898.95 was in "full settlement of all disputes", and noted the similar restriction on the reverse side of the check. (Tr. 128) Prior to this moment, there was arguably a genuine misunderstanding between Essex and Amax as to their respective positions. Essex believed Amax's consent to the removal of the Properzi combined with Clough's silence at the July 25 meeting reflected Amax's concession that the removal was proper under the Lease Agreement. (Tr. 495-96) Amax believed it was reserving its rights. *From this moment on, however, Amax knew precisely what Essex's understanding was.*

125. Clough was upset upon receipt of this letter and check, but did not telephone Seifert or Dunstan to complain about the way Seifert had characterized their agreement. (Tr. 129) Rather, Clough consulted counsel at Amax who advised him to make no response to Essex until David Farley, another lawyer at Amax, was able to review the situation. (Tr. 69, 129)

126. Clough then consulted his superior, Stephen Furbacher, President of Amax. (Tr. 69, 129) Furbacher and Clough agreed not to deposit the check. (Tr. 131) Furbacher testified that the reason for this decision was:

> "Well, we are very practical people, and as far as the practical people approach is, we were also selling some materials to Essex, both in our copper division and in our aluminum division.
>
> "Q. How did that enter into your decision not to deposit the check?

> "A. We wanted to continue doing business with them for a while, as long as we could." (Furbacher Transcript, Ex. D-733, p. 143)

Of course, Clough did not advise Essex of this decision. (Tr. 129) The only way the billet sales to Essex could be protected was to deceive Essex about the check and purported settlement.

127. Clough claimed he was merely consulting with counsel and not trying to deceive Essex. However, in January 1969, Clough found himself in exactly the same situation—in receipt of a letter from Essex which seemed to mis-state an earlier agreement. What did Clough do? He immediately telephoned Essex to correct the misunderstanding and upon failure to reach the person called, sent a letter correcting the discrepancy. (Tr. 749, 757-58) Thus, Clough's conduct upon receipt of the letter of July 26, 1968 and check is inconsistent with his own later conduct under similar circumstances but quite consistent with an intent to deceive Essex.

128. On August 23, 1968, Clough reviewed the Essex letter of July 26, 1968 and the enclosed check with David Farley. (Tr. 135) Farley concurred that the check should not be deposited. (Ex. P-21) Again Clough did not advise Essex that the check was being held by Amax without being cashed. (Tr. 135)

129. In the meantime, Essex was continuing its negotiations for a settlement with Nichols, Properzi and OTT on the Third and Fourth Controversies. On September 6, 1968, Essex made a new settlement proposal. (Ex. D-292; Tr. 430)

130. At this point, Clough again consulted with Stephen Furbacher, President of Amax, concerning Amax's relationship with Essex. (Tr. 133) Furbacher testified:

> "Q. Will you tell me the substance of your discussions with Mr. Clough, unless you have already done so.
>
> "A. I think I have already done so. The substance of my discussions were that we were still selling them some materials and we ought to take no precipitous action in connection with the check problem." (Furbacher Deposition, Ex. D-733, p. 145)

Thus, although Amax considered telephoning Essex, it was decided that Amax would not advise Essex that the check was being held without being deposited. (Tr. 136)

131. On October 14, 1968, Essex signed and forwarded to Nichols another proposal in connection with settlement negotiations on the Third and Fourth Controversies. (Tr. 430-31; Ex. D-304)

132. On October 28, 1968, Essex reached a settlement agreement with OTT concerning the second coiler. (Tr. 443) In essence, OTT agreed to cancel the order and refund Essex's down payment only upon subsequent sale of the coiler by OTT. During the period OTT was endeavoring to sell this coiler, it would be stored in France in a bonded warehouse at the expense of Essex. (Ex. D-302)

133. On October 31, 1968, Clough once more reviewed the Essex letter of July 26, 1968 and accompanying check, and decided to forward the check to Amax's corporate secretary for safekeeping. (Ex. P-21) Once again Clough decided not to advise Essex that Amax was holding the check without depositing it. (Tr. 136)

134. On October 29, 1968, Continuus agreed to the settlement proposed by Essex on October 14, 1968. (Ex. D-304)

135. On November 1, 1968, Nichols agreed to the settlement proposed by Essex on October 14, 1968. (Ex. D-304)

136. Under covering letter dated November 4, 1968, the signed settlement agreement between Nichols, Continuus and Essex was returned to Essex. (Ex. D-303)

137. In reaching these settlement agreements with Nichols, Continuus and OTT, Dunstan relied upon the belief that Essex had no pending disputes with Amax. (Tr. 432, 511-12) Facts supporting that belief included Amax's consent to Kilburn removing the Properzi from Intalco (Tr. 511), Clough's silence at the meeting on July 25, 1968 in the face of Dunstan's reference to a "complete settlement" (Tr. 506-07, 510), Amax's apparent acceptance of the check (Tr. 428-29), and Essex's good relationship in general with Amax as evidenced by Essex's continued purchases of billet from Amax. (Tr. 432)

138. Had Dunstan known that there was a dispute then pending with Amax concerning Essex's removal of the Properzi from Intalco, he would not have released Nichols and Continuus. (Tr. 432-33)

139. Under covering letter dated January 2, 1969, Amax returned the check to Essex. (Ex. D-51) This letter was received by Essex on January 6, 1969. (Tr. 137; Ex. D-51) Prior to that time, Amax had not advised Essex that it was holding the check rather than depositing it. (Tr. 135-37, 552-53)

140. Essex did not discover that the check had not been deposited by Amax until January, 1969. (Tr. 428, 553, 592) Seifert was ill and absent from the office from August 9, 1968 until late December. (Tr. 552-53) Dunstan did not

look to see if the check had been cashed because he was confident there was a settlement and it didn't occur to him to check up on Clough's good faith by tracing the check. (Tr. 429) The size of the check was not such that the fact it was outstanding would naturally be called to the attention of Dunstan or O'Malley. (Tr. 429, 587-88, 592).

141. During the period that Amax was holding Essex's check, Amax was aware that Essex was engaged in negotiations with Nichols and Continuus concerning Essex's claim against them. (Tr. 137-38; Ex. D-733, p. 144)

142. During the period August 1, 1968 until December 31, 1968, Amax sold 3,670,000 pounds of billet to Essex at a delivered price of 25.5 cents a pound (Tr. 75-76, 138), and thereby reaped a profit of 9.3 cents per pound (25.5 minus the cost of 16.2) (Ex. P-106) or a total profit of $341,000. This was the business which the President of Amax, Stephen Furbacher, wanted to protect when he and Clough decided not to advise Essex that the check was being held but not deposited. (Tr. 138-139)

143. Once Amax returned the check to Essex and thereby advised Essex that it was not accepting the check, Essex immediately terminated its billet business with Amax. (Tr. 139)

IX. Essex's Contract With Alcoa

143A. In December 1967, Essex entered into a contract with Alcoa pursuant to which Essex undertook to purchase specified quantities of aluminum over a fifteen year period. (Ex. P-53, P-54) In negotiating the Alcoa contract in the fall of 1967, Essex assumed that it would also purchase from Amax those quantities of aluminum rod specified in

the Supply Contract. (Tr. 435, 554) In 1968, Essex did not have a surplus of aluminum commitments (Tr. 439, 516, 589-90), but rather experienced a shortage. (Ex. D-725, P-6, P-64)

X. Damages Suffered by Essex

144. By reason of Amax's breach of the Lease Agreement (Proposed Findings 86-95, *supra*), Essex has been damaged in an amount no less than $255,896.96 representing costs incurred by Essex in connection with the Model 8 Properzi located at Intalco. (Ex. D-730)

XI. Damages Claimed by Amax

145. Amax claims that it has been damaged in the amount of $4,090,140 by reason of alleged breaches by Essex of the Lease Agreement and Supply Contract. Such damages are the difference between the purported profit Amax would have realized on the Supply Contract with Essex and on another contract with Okonite less the purported profit made by Amax on the sale of the same volume of aluminum as T-ingot. (Ex. P-106)

A. Okonite Contract

146. On December 20, 1967, Amax entered into a contract with Okonite for the sale of rod. This contract did not obligate Okonite to purchase any specific tonnages from Amax, but rather covered Okonite's "requirements", if any, for aluminum rod over the period 1968 through 1972. (Ex. D-136) There is no evidence as to what Okonite's "requirements" were, if any, during that period.

B. Supply Contract

147. Amax contends that it would have realized profits of $7,794,240 on the Supply Contract over the period 1968 through 1973. (Ex. P-106) This alleged profit is the contract price specified for the rod, less an *estimated* cost of manufacturing that rod, multiplied by the total poundage covered by the contract. In that the price of the rod is fixed by the contract, the determining variable is the *estimated* cost of 17.0 cents per pound. (Ex. P-106) As indicated below, this "estimate" is essentially speculation and guesswork, and in any case is Intalco's cost and not Amax's cost.

148. First the 17.0 cent estimate for the cost of manufacturing aluminum rod was made in May, 1968. (Ex. D-30) In making this estimate, Intalco did not rely upon any prior experience in operating a Model 8 Properzi, nor was it in any way based upon prior experience on a Model 7 or Model 6 Properzi. (Tr. 239-42) Intalco did not even consult Pechiney, one of the partners in Intalco, who had "many years" experience with Properzis. (Tr. 239-40) Intalco likewise did not consult other Model 8 operators. (Tr. 244-45) The author of the 17.0 cent estimate had never had any operating experience at all relating to a Properzi, and conceded that he was not an expert on the Properzi. (Tr. 220)

149. Second, the *actual* cost of manufacturing rod on the Properzi at Intalco over the period December, 1967 through May, 1968 had been 31.5 cents per pound. [$660,678 (Ex. P-103) divided by 2,100,000 pounds] (Ex. D-726; Tr. 449) Thus, the cost estimate utilized in the damage calculation assumes that costs could be reduced from the 31.5 cents per pound actually experienced to date to approximately 17 cents per pound.

150. Third, in May, 1968, Intalco's *actual* cost of producing hot metal was 15.2 cents per pound. (Tr. 164) Thus, the cost estimate of 17.0 cents per pound for aluminum rod (Ex. D-30) assumes that hot metal can be converted into rod via the Model 8 Properzi for 1.8 cents per pound. [17.0 minus 15.2] In fact, Essex's actual cost at Boonville of converting hot metal into aluminum rod via the Model 8 Properzi, as modified by Kilburn, was slightly more than 5.0 cents per pound when operations commenced in April 1969, and averaged out approximately 4.0 cents per pound over 1969. (Tr. 708, 713-14, 727) By late 1971, after two and one-half years of experience at Boonville, Essex's cost for converting hot metal into aluminum rod via the Model 8 Properzi was approximately 2.9 cents per pound. (Tr. 714) Also, Alcoa charged Essex 3.0 cents per pound for this conversion. (Ex. P-53, p. 4; Tr. 468)

151. Fourth, the Amax damage calculation assumes that the 17.0 cents per pound estimate remains constant over the period 1968 through 1973. However, the 17.0 cent cost estimate is based upon the following factors: (a) the cost of alumina which varied over the period 1968 to 1972 (Tr. 236-37), (b) the freight cost of transporting alumina from Australia to Washington which was "much higher" in 1972 than it had been in 1968 (Tr. 236-38), (c) the wage rates for operators and supervisors which increased 5% or 6% each year over this time period (Tr. 238), (d)payroll costs (benefits) of 23% which likewise increased over the time period (Tr. 242), (e) the cost of operating supplies and maintenance which was "probably" based upon certain key items but in any event not based upon any type of actual experience (Tr. 244-45), (f) an allocation of "cast house direct costs", the basis for which was unknown (Tr. 246), (g) shipping costs which have increased over the period 1968 to 1972 (Tr. 247-48), and

(h) other elements set forth in Exhibit D-30, all of which have gone higher over the period 1968 to 1972 "like everything else". (Tr. 250-51)

152. Fifth, Clough testified that running the Properzi to fulfill only the Okonite contract was "not particularly attractive" (Tr. 141) because at that volume the cost per pound would be higher than the 17.0 cent estimate (Tr. 142) However, Amax conceded that the change in cost caused by a volume change is "almost inconsequential" (Tr. 87, 178). Moreover, upon analysis the only element of the 17.0 cent estimate which would vary according to volume would be the "Rent and Plant Allocation" of 0.431 cents. (Tr. 454-55) Doubling that cost (because the Okonite volume was a little more than half the total volume of the two contracts combined) would make the estimated cost of rod 17.484 cents on Exhibit D-30 ($0.17053 plus $0.00431). Following through Amax's own calculation but using an estimated cost of 17.484 cents rather than 17.0 cents, the profit realized by Amax on the Okonite contract alone would be $1,343,000. (Ex. D-727; Tr. 454-59) Thus, either Clough's testimony on the "attractiveness" of the Okonite contract alone is wrong or the 17.0 cent cost estimate is wrong. (Tr. 458-59)

153. Sixth, if Intalco's *actual* cost of hot metal of 15.2 cents (Tr. 164) is combined with Essex's *actual* cost experience in 1969 for converting hot metal to rod of 4.0 cents rather than being combined with Intalco's *estimated* cost of converting hot metal to rod of 1.8 cents, the appropriate cost figure for the damage calculation (Ex. P-106) becomes 19.2 cents (15.2 cents plus 4.0 cents) rather than 17.0 cents. Carrying through with Amax's own calculation, but substituting 19.2 cents for 17.0 cents, Amax's damages are wiped out completely and Essex apparently saved Amax approximately $163,000 by removing the Properzi (Ex.

D-729; Tr. 469-71) The import of such calculation is *not* that Essex saved Amax money but rather that the 17.0 cent cost estimate for rod (which necessarily means a 1.8 cent cost for converting hot metal to rod) is unreliable. (Tr. 474-76)

154. Seventh, the 17.0 cent estimate of the cost of making rod, which is the key to Amax's damage calculation (Ex. P-106), is *not* Amax's cost but is *Intalco's* cost. The record is absolutely void as to Amax's cost of hot metal, finished rod, or anything else, and is likewise void as to the mark-up Intalco enjoyed on sales to Amax. There is certainly no reason to believe Intalco was a non-profit organization. (Tr. 50)*

155. The 17.0 cent cost estimate forms the basis for the profits claimed on both the Supply Contract and the Okonite Contract (Ex. P-106), but that estimate is inconsistent with the facts and with logical analysis. Every penny that this 17.0 cent estimate is increased reduces Amax's damage claim by $2,259,000. [105,900,000 pounds on the Supply Contract plus 120,000,000 pounds on the Okonite Contract times $.01 per pound.]

* Why did Amax elect not to prove *its* cost? Exhibit D-70, marked for identification but *not* introduced into evidence, indicates that Intalco charged Amax 18.18 cents for hot metal from the pot line which is a mark-up of almost 3.0 cents over Intalco's hot metal cost of 15.2 cents. (Ex. D-30; Tr. 164) If one assumes it would cost Amax the same 1.8 cents to convert hot metal to rod as Intalco assumed (17.0¢ minus 15.2¢), the 17.0 cent estimate for Intalco's rod cost becomes 19.98 cents for Amax (18.18¢ plus 1.8¢) Substitution of 19.98 cents for 17.0 cents in Amax's damage calculation (Ex. P-106) again wipes out completely Amax's damages, and Essex apparently "saved" Amax over $2 million by removing the Properzi! This shows the wisdom of the rule that where a party has evidence in his possession which could support his version of the facts and withholds it, the evidence is presumed to be adverse to him. *Noce* v. *Kaufman*, 2 N.Y.2d 347, 353, 141 N.E.2d 529, 531 (1957); *Wigmore on Evidence* §285 (3d ed. 1940); Federal Rules of Evidence 302.

C. Profits Realized on Sale of T-ingot

156. Amax's calculation of the profits realized upon the sale of T-ingot is based upon the difference between *Amax's* selling price of T-ingot in May, 1968 of allegedly 22.1 cents per pound (Tr. 89, 755-56) and *Intalco's* cost of producing T-ingot of allegedly 16.2 cents per pound (Tr. 749-51). (Ex. P-106) However, the selling price of T-ingot in May, 1968 as reflected by the New York metal market was 25.0 cents per pound. (Ex. D-735) This figure represents the price for T-ingot as quoted at that time by the consensus of the major aluminum suppliers. (Tr. 755) Over the period 1968 through 1973, this price varied markedly and increased substantially. (Ex. D-735) For each increase of 1.0 cent in the selling price of T-ingot, Amax's total profits on sales of T-ingot over 1968 to 1973 would be increased by $2,259,000 and its alleged damages would be decreased by a like amount.

D. Amax's Opportunity to Purchase the Properzi

157. In June, 1968 Amax could have purchased the Model 8 Properzi fully installed at Intalco for $1,400,000. Thus, Amax's maximum damages is this $1,400,000 less the *value* of the equipment received. The *cost* of the installation was $1.3 million composed of price paid for the Model 8 Properzi, the price paid for the coiler, the cost of the furnaces, other installation costs, and freight for the equipment from Italy and France (Tr. 10). The reasonable *value* of this installation in June 1968 is certainly no less than the $850,000 offered by Amax at that time which was based upon the installed cost of Model 7 equipment (Ex. D-40), plus $154,000 for the existing furnaces (Ex. P-46), plus the value of the coiler. This Amax offer assumed that the Supply Contract would be terminated. (Tr. 61)

158. Under such circumstances, Amax's total damages cannot exceed $396,000 for breach of contract ($1.4 million less $850,000, less $154,000) (which ignores the coiler); *plus* $424,898.95 covering the cost of metal used at Intalco, maintenance charges, and a fixed cost allocation; *less* the profit of $341,000 realized by Amax on its billet sales to Essex during the last half of 1968 when Amax was deceiving Essex by holding the check; for a total of no more than $480,000.

Defendant's Proposed Conclusions of Law

I. Alleged Breach by Essex

1. Essex complied with its obligation under the Lease Agreement to install the Model 8 Properzi at Intalco. After installation, Essex provided adequate training in the operation of the Properzi for the crew. Thereafter, Mr. Kilburn was present to provide technical assistance in running the equipment. (Proposed Findings 12-13, 18-27, 57-60)

2. Essex was obligated to make a reasonable and good faith effort to get the Model 8 Properzi "operating normally" as defined by the parties. Essex fulfilled this obligation. (Proposed Findings 57-60)

3. The Model 8 Properzi never operated normally while it was at Intalco. This failure of the equipment was not due to any fault or lack of diligence by Essex, but resulted from design inadequacies in the Model 8 Properzi itself. Essex did all that could reasonably be expected of it in an effort to make the equipment operate normally. (Proposed Findings 28-62)

II. Breach by Amax

4. Amax was obligated to provide day-to-day maintenance and repairs as soon as the Model 8 Properzi was installed at Intalco and its "running-in" completed. The term "running-in," as used in the Lease Agreement, means a de-bugging or testing process intended to make sure that the equipment will function as intended and actually produce rod, and is a preliminary phase which is completed before the equipment is actually "operating normally". This running-in process was completed by Essex in December 1967, in that rod had been produced and shipped as of that time, and in any event was completed by Essex at some time prior to May 10, 1968 when the Lease Agreement was terminated. (Proposed Findings 14, 86-92)

5. Amax's refusal to pay for maintenance expenses incurred subsequent to "running-in", in the face of repeated protests by Essex, constituted a breach of Amax's obligations under the Lease Agreement. (Proposed Findings 93-94)

6. In addition, the maintenance efforts provided by Amax, and improperly billed to Essex, were sluggish and the supervisory personnel were inadequate under all the circumstances. Such deficiencies constituted an additional breach by Amax of the Lease Agreement. (Proposed Findings 45-56, 95)

III. Essex's Right to Remove the Properzi from Intalco

7. The last sentence of paragraph 3 of the Lease Agreement was intended by the parties to permit removal of the Model 8 Properzi in the event that normal operations were precluded because of equipment failures. Under all the circumstances, this sentence of the Lease Agreement

excused Essex from its obligation of making the Properzi "operate normally" and gave Essex the right promptly to remove the Properzi and restore the site, which is what Essex did. Such removal likewise terminated the obligations of both parties under the Supply Contract. (Proposed Findings 96-99)

8. Essex's removal of the Properzi and restoration of the site was likewise justified under paragraph 7 (d) of the Lease Agreement because Amax had breached the Lease Agreement by continuing to charge Essex for maintenance after the "running-in" of the Properzi was completed. Such removal likewise terminated the obligations of both parties under the Supply Contract. (Proposed Findings 93-94, 96) See *Williston on Contracts* §§841, 1316 (3d ed. 1972); *Restatement of Contracts* §§275, 395 (1932); *Vanadium Corp.* v. *Fidelity & Deposit Co.*, 159 F. 2d 105, 108 (2d Cir. 1947); *E. W. Foley, Inc.* v. *New York*, 61 N.Y.S. 2d 118, 121 (N.Y. Ct. Claims 1946); *Rochester Park, Inc.* v. *City of Rochester*, 38 Misc. 2d 714, 238 N.Y.S. 2d 822 (Monroe Co.) *aff'd*, 19 A.D. 2d 776, 241 N.Y.S. 2d 763 (4th Dept. 1963); *Multi-Products Eng. Co., Inc.* v. *Bellingham Steel Prod., Inc.*, 401 P. 2d 329 (Wash. 1965).

9. Essex's removal of the Properzi and restoration of the site was likewise justified under paragraph 7(d) of the Lease Agreement because Amax breached the Lease Agreement by providing inadequate maintenance and supervisory personnel. Such removal likewise terminated the obligations of both parties under the Supply Contract. (Proposed Findings 95-96, *supra*)

10. The obligations of both parties under the Supply Contract were also excused because "failure of the Properzi rod processing and related equipment * * * to function properly * * * interfered with production." (Proposed Findings 17, 28-44, 61)

IV. Amax's Agreement to Full Settlement of All Disputes

11. Following the settlement meeting on July 25, 1968, Essex forwarded to Amax a check in the amount of $424,898.95 "in full settlement of all disputes" under the Lease Agreement and Supply Contract. Amax's retention of this check, with its restrictive legend, for more than five months was unreasonable under all the circumstances, and constituted an acceptance of the condition upon which payment was made. See Defendant's Trial Memorandum, pp. 15-17.

12. The question of what constitutes retention for "an unreasonable period of time" depends upon all the circumstances, but in this case is based upon the cumulative effect of the following: (a) the check was held for more than five months, (b) Amax was aware of the restrictive legend on the reverse side throughout this period, (c) Amax did not advise Essex that it was holding the check without depositing it, (d) Amax expressly intended to deceive Essex by not depositing the check, (e) Amax endeavored to deceive Essex because Amax wanted to protect its billet sales to Essex, (f) Essex was not aware that the check had not been deposited by Amax and was in fact deceived, and (g) Essex was injured by reason of Amax's deception in that it released what may have been valid claims against third parties. (Proposed Findings 124-43) See Defendant's Trial Memorandum, pp. 15-17; *Davis* v. *Godart*, 180 N.W. 239, 240 (Minn. 1920); *Lewis* v. *Clark*, 149 S.W.2d 244, 247 (Tex. Civ. App. 1941)

V. Waiver

13. Waiver is the voluntary and intentional relinquishment of a known right or benefit which, but for such waiver, the party would have enjoyed. Waiver can be

established by acts and conduct revealing an intention and purpose not to claim the right in question, or by acts from which an intention to waive may reasonably be inferred. See Defendant's Trial Memorandum, pp. 17-18.

14. Under the circumstances of this case, it is reasonable to infer that Amax intended to waive any claim that Essex's removal of the Model 8 Properzi from Intalco violated the Lease Agreement. Such waiver is based upon the following: (a) Amax initially claimed to Essex that Essex had no right to remove the Properzi on the ground that the equipment had not lived up to its specifications "without the agreement" of Amax, (b) Amax then considered the possibility of purchasing the Model 8 Properzi from Essex, (c) in evaluating the merits of such a purchase, Amax investigated the question of whether the equipment could live up to its specifications and was advised that it could not do so in the absence of a multitude of equipment modifications, (d) thereafter Essex was permitted, without protest from Amax, to enter the Intalco plant with a crew and remove the Model 8 Properzi, and (e) at the settlement meeting on July 25, 1968 Amax made no mention of a claim that said removal violated the Lease Agreement notwithstanding the fact that removal was discussed and Essex indicated that the settlement being reached was intended to "wipe the slate clean" so that billet business between the parties could continue in the future. (Proposed Findings 71, 74, 107-09, 111, 119)

VI. Estoppel

15. An estoppel arises when a person, either by his declaration or conduct, induces another to change his position to his injury in reliance upon the first person's declaration or conduct. Estoppel can arise from silence or

inaction, as well as from affirmative acts, if the silent party stands by or encourages another to act, knowing that the other is acting under a false impression which may result in his injury. See Defendant's Trial Memorandum pp. 18-21.

16. In this case, Essex believed that it had a right to remove the Properzi from Intalco because the Properzi had failed to live up to its specifications. When Amax permitted Essex to remove the equipment, after earlier protesting that Essex's right to remove required the agreement of Amax, Essex believed, rightfully or not, that Amax conceded Essex's rights in this regard. Essex thought that its understanding was confirmed at the meeting of July 25, 1968 when Mr. Clough made no mention of any dispute between the parties notwithstanding a discussion of future business between the two companies and Mr. Dunstan's statement that he intended to wipe the slate clean. (Proposed Findings 61, 70-72, 74, 111-12, 119)

17. Although there may have been a genuine misunderstanding between the parties as of July 25, 1968, there was no such misunderstanding once Amax received Essex's check on July 29, 1968. At that point in time, Amax knew what Essex's understanding was and likewise knew that it was different from Amax's understanding. (Proposed Finding 124)

18. Thereafter, Amax did nothing to correct Essex's misunderstanding. Amax did not correct the misunderstanding because it wanted to protect future billet business with Essex. This billet business could be protected only if Essex was deceived into believing that its understanding of the settlement was correct. Essex was in fact deceived and continued to purchase billet from Amax. (Proposed Findings 125-28, 130, 133, 139-43)

19. Simultaneously, Essex conducted negotiations with Nichols, Continuus and OTT, and ultimately released valid causes of action against Continuus and Nichols. Although these settlement negotiations commenced in June, 1968, the settlement ultimately agreed upon was not offered by Essex until October 14, 1968, and was not signed by Nichols and Properzi until thereafter. The final settlement agreement was different from Essex's earlier settlement offers in that Essex was obligated to pay $8,000 for a transformer, Essex was obligated to pay the freight covering the shipment of this transformer from Italy to Indiana, Essex was obligated to pay for its future technical advice from Nichols which proved to be $3,000, OTT refused to refund Essex's down payment on the coiler, and OTT only refunded to Essex the down payment less OTT's loss on the subsequent sale to another customer less the cost of storing the coiler in a bonded warehouse in France for over five months. (Proposed Findings 106, 110, 112, 115-16, 118, 120, 129, 131-32, 134-38)

20. In agreeing to the final settlements with Nichols, Continuus and OTT, Essex relied upon its belief that there were no outstanding disputes with Amax. Such reliance was based upon Amax's continuing course of action, including: (a) Amax's initial claim that the Model 8 Properzi had lived up to its specifications and therefore that Essex had no right to remove it without the agreement of Amax, (b) Amax's decision not to purchase the equipment from Essex after evaluating the complete situation, (c) Amax's decision to allow Essex, without protest from Amax, to remove the Properzi from the plant at Intalco, (d) Clough's silence at the meeting on July 25, 1968 when Dunstan indicated that he was wiping the slate clean so that future business between the two companies could continue, (e) the clear and unambiguous notice given to Amax

of Essex's understanding of the situation when the check and covering letter were forwarded by Mr. Seifert to Amax, and (f) Amax's retention and apparent acceptance of the check. (Proposed Findings 71, 74, 107-09, 111-12, 119, 122, 124, 137-39)

21. Essex did not change its position with Nichols, Continuus and OTT until October 14, 1968 when it signed the final settlement agreement. Thus, two months passed during which Amax knew that Essex had a misunderstanding, during which Amax acted in such a way so as to continue and preserve that misunderstanding, and during which Essex was in fact deceived exactly as Amax intended. Amax expected to benefit itself through billet sales to Essex by means of this deception, and in fact did so in that its profit on billet sales to Essex (which terminated immediately upon notice to Essex that the check had not been deposited) totalled approximately $341,000. (Proposed Findings 124-43)

22. Under all the circumstances, Amax is estopped from denying that it accepted Essex's check in the amount of $424,898.95 in full settlement of all disputes arising from the Lease Agreement and Supply Contract.

VII. Essex's Damages

23. By reason of Amax's breaches of the Lease Agreement, the costs incurred by Essex in connection with the Intalco project were wasted. Essex was damaged in an amount no less than $255,896.96. (Proposed Finding 144)

VIII. Damages Claimed by Amax

A. Plaintiff's Burden of Proof in General

24. A plaintiff seeking compensatory damages for a breach of contract has the burden of proof and must present to the court a proper basis for ascertaining the damages he seeks to recover. *Broadway Photoplay Co.* v. *World Film Corp.*, 225 N.Y. 104, 121 N.E. 756 (1919); *West, Weir & Bartel, Inc.* v. *Mary Carter Paint Co.*, 25A.D.2d 81, 267 N.Y.S.2d 29 (1st Dept. 1966); *Dunkel* v. *McDonald*, 272 App. Div. 267, 70 N.Y.S.2d 653 (1st Dept. 1947), *aff'd on limited appeal*, 298 N.Y. 586, 81 N.E.2d 323 (1948); *Alexander's Dept. Stores, Inc.* v. *Orbach's, Inc.*, 269 App. Div. 321, 56 N.Y.S.2d 173 (1st Dept. 1945). The damages must be susceptible of ascertainment in some manner other than by mere conjecture or guesswork—not only in their nature, but also as to the source from which they proceed. *Broadway Photoplay Co.* v. *World Film Corp., supra; Witherbee* v. *Meyer*, 155 N.Y. 446, 50 N.E. 58 (1898); *Dunkel* v. *McDonald, supra; Penrose* v. *Arrow Constr. Co.*, 15 Misc.2d 512, 182 N.Y.S.2d 642 (N.Y.Co. 1958); *Esterowicz* v. *Alotun Corp.*, 109 N.Y.S.2d 480 (Kings Co. 1951).

25. The plaintiff is required to prove his damages by the best evidence obtainable, including the revelant facts antecedent and subsequent to the breach. *Dickenson* v. *Hart*, 142 N.Y. 183, 36 N.E. 801 (1899); *Wakeman* v. *Wheeler & Wilson Mfg. Co.*, 101 N.Y. 205, 4 N.E. 264 (1885); *Mortimer* v. *Bristol*, 190 App. Div. 452, 180 N.Y.S. 55 (1st Dept. 1920); *Stevens* v. *Amsink*, 149 App. Div. 220, 133 N.Y.Supp. 815 (2d Dept. 1912). When seeking as damages future profits claimed to have been lost as a result of the defendant's breach, plaintiff also has the burden of showing a fair and provable estimate of the factors to be deducted from gross receipts. Such factors include those items not chargeable to the wrong of the defendant, such

as plaintiff's costs, margin of profit, expenses, inventory price adjustments, and the efforts of and changes in personnel. *Orester* v. *Dayton Rubber Co.*, 228 N.Y. 134, 126 N.E. 510 (1920); *Mullen* v. *Sinclair Refining Co.*, 32 A.D. 2d 1000, 301 N.Y.S.2d 716 (3d Dept. 1969); *342 Holding Corp.* v. *Carlyle Constr. Corp.*, 31 A.D.2d 248 (1st Dept. 1968); *West, Weir & Bartel, Inc.* v. *Mary Carter Paint Co.*, 31 A.D.2d 517, 294 N.Y.S.2d 837 (1st Dept. 1968); *E. W. Bruno Co.* v. *Friedberg*, 28 A.D.2d 91, 281 N.Y.S. 2d 504 (1st Dept. 1967).

B. Burden of Proof in "New Venture" Situation

26. Absent unusual circumstances no recovery may be had for lost profits resulting from the interruption of a new venture as opposed to an existing and ongoing business. Such profits are regarded as too uncertain and speculative. *For Children, Inc.* v. *Graphics Int'l, Inc.*, 352 F. Supp. 1280 (S.D.N.Y. 1972); *Bernstein* v. *Meech*, 130 N.Y. 354, 29 N.E. 255 (1892); *Witherbee* v. *Meyer, supra.* Thus, where plaintiff has engaged in a new venture, his burden of proof becomes increasingly more severe because a court cannot accept prior performance in unrelated areas as a basis for recovery. *Cramer* v. *Grand Rapids Show Case Co.*, 223 N.Y. 63, 119 N.E. 227 (1918); *Broadway Photoplay Co.* v. *World Film Corp., supra.*

27. Amax's first Properzi experience was at Intalco. (Proposed Findings 51-52, 148) The Properzi machine itself was quite different from its predecessor models. (Proposed Findings 8, 38) The machine proved to be so new and untested that it never approached the minimum specifications supplied by the manufacturer. (Proposed Findings 61-62) Not until the machine was substantially modified after more than a year's cumulative experience

did the Model 8 equipment ever function properly. (Proposed Findings 76-85)

28. Amax failed to meet its burden of proof under New York law. The calculation of future profits in Exhibit P-106 is demonstrably speculative in light of Amax's failure to account for variations in costs over the six-year damage period (Proposed Findings 151, 156), Amax's use of *Intalco's* costs rather than its *own* costs (Proposed Finding 154), and Amax's mixing of *its* prices with Intalco costs (Proposed Finding 156). Although Amax had the opportunity to demonstrate the *actual* costs of running a Properzi by introducing examples of what the Properzi has cost other operators, including its own partner, Pechiney, it failed to do so. (Proposed Findings 148-50) It also had the opportunity to prove what Okonite's requirements were over the period 1968 to 1972, but elected not to do so. (Proposed Finding 146) Amax likewise elected not to prove its own cost of hot metal from Intalco's pot line. (Proposed Finding 154)

29. Based on the record in this case, there is no reasonable way to determine what Amax's costs would have been in operating the Model 8 Properzi in order to meet the Essex and Okonite contracts. Amax's projected profits are illusory, speculative, and unrecoverable as a matter of law. (Proposed Findings 145-56)

C. Other Measures of Damages

30. Where a plaintiff cannot adequately prove what its future profits might have been, recovery is limited to some other normal measure of damages. *Czarnikow-Rionda Co.* v. *Fed. Sugar Refining Co.*, 255 N.Y. 33, 173 N.E. 913 (1930); *Deluise* v. *Long Island R.R.Co.*, 65 App. Div. 487, 72 N.Y. Supp. 988 (2d Dept. 1901), *aff'd*, 174 N.Y. 516, 66

N.E. 1106 (1903); *Gregory v. Walker*, 239 Ark. 415, 389 S.W.2d 892 (1965); *Witherbee v. Meyer, supra*; McCormick, *Damages* §28 at 104 (1935).

31. In June 1968, by making an investment of $1.4 million, Amax would have been in a position to reap whatever future profits it could in fact earn and would also enjoy full ownership of equipment having considerable value. Thus, Amax's damages are limited by this investment, less the value of the equipment received. (Proposed Findings 157-58)

32. Amax also enjoyed profits of $341,000 on billet sales to Essex in the second half of 1969. These profits would not have been received but for Amax's deception of Essex. Thus, such profits should be deducted from any damages incurred by Amax. (Proposed Findings 126, 142-43, 158)

IX. Fraudulent Misrepresentation

33. Defendant's claim of fraudulent misrepresentation is covered in Defendant's Pre-Trial Memorandum, p. 21, and in Proposed Findings 124-28, 130, 134-48.

Dated: New York, New York
February 7, 1974

Respectfully submitted,

White & Case
Attorneys for Defendant

White & Case

By Rayner M. Hamilton
A Member of the Firm

Rayner M. Hamilton, Esq.
Todd B. Sollis, Esq.
E. Miles Prentice, Esq.
Of Counsel

Findings of Fact and Conclusions of Law

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

[SAME TITLE]

Introduction

Plaintiff, American Metal Climax, Inc. (Amax) is a New York corporation with its principal place of business in New York. Defendant, Essex International, Inc. (Essex) is a Michigan corporation with its principal place of business in Indiana. The matter in controversy exceeds the sum of $10,000 exclusive of costs and interest, thus the diversity jurisdiction of this court is properly invoked. 28 U.S.C. §1332(a)(1).

This case involves mutually exclusive claims of breach of contract.[1] As supported by the following Findings of Facts and Conclusions of Law the court concludes that Essex breached its obligations under the bailment lease agreement (Exh. D-1) and anticipatorily repudiated the supply contract (Exh. D-2). The court also finds that Essex has failed to carry its burden of proving its defenses of consent or waiver, accord and satisfaction, and estoppel, and that plaintiff suffered damages in the form of lost profits in the amount of $4,090,140, plus interest. Finally, the court finds that Amax is entitled to $424,898.95, plus interest in accordance with the agreement of the parties dated July 25, 1968 and costs.

1. At the trial of this action, Essex withdrew its counterclaim against Amax based on alleged fraudulent misrepresentation by Amax and upon an allegedly wrongful refusal by Amax to enter into a joint venture with Essex for an aluminum reduction plant.

Findings of Fact and Conclusions of Law

Background

Amax owned a half-interest in Intalco Aluminum Corporation (Intalco), which operated a reduction plant at Ferndale, Washington. This interest assured Amax's access to a supply of primary aluminum. (Pretrial Order D. (13)(14); Tr. 39a, 50.)

Essex was, among other things, a manufacturer of wire, cable and related products from primary aluminum. (Pretrial Order D. (2); Tr. 575-76.)

S.p.A. Continuus (Continuus) was an Italian firm which made, in various sizes, a machine for the continuous casting of molten aluminum into aluminum rod. Named after its designer, the machine was called a "Properzi". (Pretrial Order D. (3) (5); Tr. 43-48).

Office Technique des Trefiles (OTT) was a French enterprise, which manufactured automatic coilers used to wind the rod produced by a Properzi into coils. (Tr. 416)

Nichols Aluminum Company (Nichols) served as the American agent for Continuus and OTT. (Pretrial Order D. (5).

The materials, machine and process involved in this case can be briefly summarized as follows: The element aluminum, "primary aluminum", is obtained commercially by a two-step process. First, bauxite is refined into alumina. Second, alumina is subjected to an electrochemical process in a "reduction plant", such as Amax's Italco, made up of one or more "pot lines." This process results in molten aluminum, which may then be cast into ingot or other forms. A Model 8 Properzi continuous caster is a machine which, in essence, casts molten aluminum into ⅜" coiled aluminum rod. (Tr. 39a-43, Pretrial Order, D. (5).)

In April 1966, Essex ordered a Model 8 Properzi and an OTT automatic coiler through Nichols. (Exh. D-193.)

The Model 8 Properzi was warranted by Continuus, *inter alia*, to operate at a rate of 14,000 pounds per hour on E. C. aluminum rod. This warranty was limited to twelve months from the date of shipment from Continuus' plant in Italy. (Pretrial Order D. (7); Exh. D-195.) The Model 8 Properzi ordered by Essex was to be the first of its size, although smaller models were in operation in the United States. (Pretrial Order D. (8).) Indeed, Essex had had previous experience with Properzis, having owned and operated a smaller model from 1953 to 1957. (Tr. 575, 594-96.)

Amax-Essex Contracts

Essex originally intended to install the Model 8 Properzi at its Paducah, Kentucky plant. (Tr. 601-02.) However, in late 1965 or early 1966 Essex had begun a search for a partner for an aluminum reduction plant. Amax among others was approached in this connection. (Tr. 577-79.) In the course of their discussions regarding the proposed reduction plant, Essex and Amax reached a tentative agreement in August 1966 about another venture. This second arrangement, out of which the present controversy stems, provided that Essex would lease its Model 8 Properzi (then on order) to Amax and would install it at Amax's Intalco plant in Washington where Amax would produce and sell Properzi rod to Essex and other customers. (Pretrial Order D. (9-12, 14-15); Exh. D-96.) This tentative agreement, reached between Paul O'Malley, President of Essex, and Stephen Furbacher, President of Amax, was formalized into two written agreements, the "bailment lease agreement" (Exh. D-1) and the "supply contract" (Exh. D-2), entered into on or about December 14, 1966. (Pretrial Order D. (17).)

Under the bailment lease agreement, Essex leased the Properzi to Amax for a fee of $10. until December 31, 1973,

or such other date as might be mutually agreed upon. (Pretrial Order D. (18).) No further fee or royalty was to be incurred when the machine was in use manufacturing rod for sale to Essex. Amax could also use the machine to produce rod for its own use or for sale to others, thereby incurring royalty fees payable to Essex at the rate of ¼ cent per pound for rod produced for its own use, and ⅜ cent per pound for rod sold to others. (Exh. D-1.)

Significant provisions outlining Essex's obligations under paragraph three of the bailment lease agreement were as follows:

> "3. Essex will intall the Properzi at the location at said Ferndale, Washington plant designated by Amax in consultation with Amax. After installation, Essex will provide adequate training at Ferndale in the operation of the Properzi for the original crew of personnel, who will operate the Properzi. Essex will be responsible for the original running in of the Properzi and Amax' responsibility, under the rod bar stock Purchase and Sale Agreement between the parties of even date herewith, for the delivery of bar stock will not start until the Properzi is fully installed by Essex and operating normally."

Paragraph 3 of the lease agreement also provided:

> "Throughout the life of this lease Essex shall be obligated to give Amax, or its designee, all the technical assistance needed to run said Properzi. Should the Properzi fail to live up to its specifications, Essex promptly will fix or remove the Properzi and restore the site."

Paragraph 4 outlined Amax's obligations:

> "4. From the completion of the installation of the Properzi, expected on or before March 31, 1967,

and its running in subsequent to that date, Amax shall be responsible for the day-to-day maintenance of the Properzi making repairs as necessary for its preservation, subject to ordinary wear and tear."

The conditions under which Essex had the right to remove the Properzi from Intalco, other than those noted above, were set out in paragraph 7(d) of the bailment lease agreement under which Amax agreed:

> "* * * to permit Essex to enter the Ferndale plant and take possession of the Properzi and remove it in the event of any breach by Amax of any of its agreements herein, or, if during the period of this lease or any extension thereof, bankruptcy or insolvency proceedings are commenced by or against Amax or Intalco, if a receiver is appointed to take possession of the business of Amax or Intalco, or if Amax or Intalco discontinue business on the premises."

The mutual obligations of the parties under the supply contract with regard to quantity as outlined on the first page of the document were as follows:

> "* * * Essex hereby purchases and agrees to receive and pay for and Amax sells and agrees to ship from the plant at Ferndale, State of Washington, * * * coiled aluminum rod (bar) 3/8 inch stock as hereinafter stated: Quantity per calendar year: 1967: minimum of 15,000,000 pounds and maximum (at Essex' option) of 18,000,000 pounds. 1968-1973: minimum of 18,000,000 pounds per year and maximum at Essex' option of 25,000,000 pounds; except that if production on a potline is started by Amax and Essex after 1970, the quantities for the first

> subsequent year under this Agreement shall be a minimum of 10,000,000 pounds and a maximum (at Essex' option) of 15,000,000 pounds, and if the next subsequent year falls within the period of this Agreement a minimum of 5,000,000 pounds and a maximum (at Essex' option) of 10,000,000 pounds for that year."

With respect to price, the supply contract provided, in pertinent part, that Essex would purchase the coiled aluminum rod from Amax at a price of 23.86 cents per pound F.O.B. Intalco, based on a published aluminum ingot "book price" of 24.5 cents per pound. The contract price for rod was to vary upward or downward by the amount that the book price might vary from time to time. (Exhs. D-2; D-735; Tr. 753-56.)

Significantly, with respect to the commencement of Amax's obligations, the supply contract provided, under "Conditions of Sale" paragraph 2 that:

> "Amax shall have no obligation under this agreement until the Properzi facilities covered by the Bailment Lease between the parties of even date herewith have been fully installed by Essex and are operating normally."

Amax-Okonite Contract

As was its right under the Amax-Essex contracts, *supra,* Amax contracted on December 20, 1967 to supply a minimum of 120 million pounds of Properzi rod to the Okonite Company during the years 1968 through 1972. Under the Amax-Okonite contract, the price was to be 26.8 cents per pound, based on an aluminum ingot book price of 25.0 cents per pound, with the contract price for rod varying as the published price of ingot might vary. (Exh. D-136.)

Essex-Alcoa Contract

In May 1967, Essex ordered a second Model 8 Properzi for installation in 1968 at its facility in Paducah, Kentucky. Notably, this second order was made before the first Model 8 had been received at Intalco. (Pretrial Order D. (34).)

In order to insure a supply of primary aluminum for this second Model 8 Properzi, Essex negotiated with Alcoa for the purchase of molten aluminum from Alcoa's reduction plant in Warrick, Indiana. By written contract dated December 26, 1967 Essex agreed to buy 22 million pounds of aluminum from Alcoa in 1968, and 50 million pounds in each of the years 1969 through 1983. In terms of profitability, the cost to Essex of making rod from aluminum supplied by Alcoa was considerably less than the cost of purchasing aluminum rod from Amax. The benefit to Essex was a function of freight costs, since the freight charges for delivery of aluminum from Alcoa's Indiana plant to Essex's Kentucky plant were less than those for the delivery of rod from Amax's Washington facility. (Pretrial Order D. (32); Exhs. P-9, P-54, P-104 (Publow Dep. 33-36.))

Installation of the Properzi 8 at Intalco

Although the bailment lease agreement anticipated delivery and installation of the Properzi at Intalco for March 1967, delivery was delayed until November 1967 through no fault of the parties. (Pretrial Order D. (28) (31).) The delay was apparently caused by various design problems. (Exhs. D-214, D-239, D-247, D-118; Tr. 608-09.) The parties agree that the machine was "installed" within the meaning of the bailment lease agreement. (Tr. 207-08.) The machine was first run on November 3, 1967. (Pretrial Order D. (31).)

Essex designated Charles Kilburn of their employ to supervise the installation of the Properzi at Intalco inasmuch as he had had experience with a Model 5 Properzi. From November 1967 until May 1968, Kilburn, along with a crew from Intalco under the supervision of C. K. Li, and various experts from Continuus and Nichols worked to "debug" the machine so as to have it "operating normally." (Exhs. P-48, p. 8; D-155; Tr. 293-309, 594-96, 640-43.)

In early 1968, when it became apparent that the Properzi project was proceeding more slowly than anticipated, Amax and Essex entered into discussions regarding a revised definition as to when the machine would be considered "operating normally" in order to clarify when the maintenance burden would shift from Essex to Amax. The parties agreed that the Properzi would be "operating normally" when it had operated for two weeks at an average production of 12,600 pounds per operating hour, and had produced at least 750,000 pounds of acceptable rod within said two weeks. (Exhs. P-12, P-13; Tr. 386-87.) The parties agree that the Properzi never reached the point of "operating normally." (Tr. 207-08.) Finally, Essex removed the machine from Amax's Intalco plant in June 1968. (Pretrial Order D. (37).)

Breach of Contract

According to Essex, the failure of the Properzi to operate normally was due to a combination of equipment failures and inadequate supervision and maintenance provided by Amax. With reference to equipment failures, Essex presented evidence at trial that the Properzi, as delivered, was problematic. In particular, Essex noted that there were "spout failures" (Exh. D-32, Memo. p. 1; Tr. 648-50), "mold failures" (Exh. D-251, Tr. 654-61), "failure of the secondary cooling system" (Exh. D-156; Tr. 326-27, 669-71, 676-77) and "emulsion problems" (Exhs.

D-164, D-32, Memo p. 2; Tr. 330-31, 685.) It is Essex's position that, as evidenced by these problems, the Properzi failed to live up to specification and that it was therefore its right under the bailment lease agreement, paragraph 3, to remove the machine.

In the alternative, Essex claims the failure of the Properzi machine to produce rod as anticipated was the direct result of the "somewhat sluggish maintenance pace" (*E.g.*, Exh. D-130) of the Intalco crew and inadequate supervisory personnel supplied by Amax (Tr. 314 *et seq.*, 690-94). These inadequacies, according to Essex, amounted to a breach of the bailment lease agreement. In addition, Essex claims that Amax's failure to pay for maintenance costs after "running-in" violated the agreement, thus giving Essex the right to take possession of the Properzi under paragraph 7(d) of the agreement.

In support of the allegation of breach by Amax, Essex claims that the burden of providing day-to-day maintenance and repairs commenced when the machine had been run-in that such running-in had in fact been completed. According to Essex, there were three discrete stages through which the Properzi was to proceed: installation, running-in, and operating normally. It is Essex's claim that "running-in" is a preliminary stage during which operators determine whether or not each phase of the machine works. It is is completed before a machine operates normally. (Tr. 385-86, 644-45.) Essex attempts to substantiate this claim by reference to the exchange of letters clarifying "operating normally", *supra*, which incorporated the phrase "will be considered operating normal (sic) beyond the original run-in period and become the operating responsibility of Amax when" certain conditions were met. (Exh. P-12.) Thus, according to Essex, running-in is completed before normal operation, and there may well be a hiatus between completion of running-in and normal operation.

In contrast, Amax asserts, and the court agrees, that the events preceding removal and the removal of the Properzi, itself, by Essex constituted a breach of the bailment lease agreement. According to Amax, Essex failed to make a good faith effort to bring the Properzi up to specification. In support of its claim, Amax notes that although all three Properzi 8 machines then installed in the United States experienced difficulties similar to those encountered at Intalco, other organizations, including Alcoa and General Cable, succeeded in solving the common problems soon after installation, and their machines were performing up to specifications. (Exhs. D-732 (Raiford Dep. 17-20, 28-37, 39, 42, 78-81, 94, 96-7, 99); D-731 (Morris Dep. 86-7); Tr. 726-27.)

As further proof of Essex's lack of diligence in bringing the machine up to the level the parties considered "normal", Amax offered evidence that Essex rejected an inviting risk-free offer by Nichols on May 2, 1963 to send in their personnel or endeavor to make the Properzi operate normally. (Exh. P-24.)

Amax also notes that Essex, after removing the Properzi from Intalco, and storing it temporarily, installed it at the new Essex plant in Boonville, Indiana near Alcoa's Warrick reduction plant. Installation began in March 1969 and by April 1969 with aid from Nichols the machine was operating satisfactorily. (Tr. 701-07, 719-27; Pretrial Order D. (47).) The modifications achieved at Boonville were not significant and could have been effected at Intalco.

At trial Amax showed that by March 1968 Essex was overcommitted for the purchase of rod. At a time when Essex forecast a need of no more than 22 million pounds of rod annually, it was obligated to buy 18 million pounds from Amax annually and, additionally, 22 to 50 million pounds of aluminum annually from Alcoa for anticipated use in the second Properzi at Paducah which was to have

an annual rod production capacity of up to 60 million pounds. (Exhs. D-2, P-54, P-62, P-64, P-66; Tr. 514-16.) According to plaintiff, one logical solution to Essex's overcommitment was to cancel its order for the second Properzi and relocate the first one at Essex's more convenient Midwest location.

Under terms established in June 1968 (Pretrial Order D. (39)), Essex, Nichols, Continuus, and OTT concluded settlements in October 1968 under which Essex released the others from any possible claims of deficiencies with respect to the first Properzi. In exchange, for this release, Continuus and OTT accepted a cancellation of the pending order for a second Properzi 8. (Pretrial Order D. (44); Exhs. P-26, D-276, D-303, D-304.) These negotiations among Essex, Nichols, Continuus and OTT paved the way for Essex to remove the Properzi then located at Intalco and to reinstall it at Boonville without fear of being saddled with two machines. According to Amax, Essex seized upon paragraph three of the bailment lease agreement to justify their opportunistic removal of the machine.

Amax further notes that, with respect to Essex's claim of breach by Amax, in the letter of May 10, 1968 (under which Essex gave notice to Amax of its intention to remove the Properzi) Essex relied exclusively on the asserted ground that the machine had failed to live up to specifications. (Exh. P-29.) No mention was made of an alleged failure on the part of Amax or Intalco personnel.

With respect to Essex's allegation that Amax failed to pay for maintenance of the machine, Amax argues that, although the machine was installed, it was never run-in within the meaning of the contract and hence the burden of maintenance had yet to shift from Essex to Amax, under paragraph four of the bailment lease agreement. It is Amax's position that the running-in of the machine would only have been completed when the machine achieved

the next stage, i.e, operating normally. (It is, of course, conceded that the Properzi while at Intalco was never made to operate normally.) Thus, the sequence as explained by Amax is unbroken, in that installation when completed is followed immediately by running-in, which when completed is immediately followed by normal operation.

For the reasons set forth in Amax's argument, *supra*, the court concludes that, under all the circumstances, including the usual difficulties encountered when dealing with a special machine of which the court takes judicial notice, the preponderance of the credible evidence establishes that Essex failed to make a good faith effort to bring the Properzi machine up to specification while located at Intalco in violation of paragraphs three and four of the bailment lease agreement. Difficulty of execution does not excuse performance. *Cameron-Hawn Realty Co.* v. *City of Albany*, 207 N.Y. 377, 381 (1913).

The court also concludes that a fair reading of the bailment lease agreement is the one suggested by Amax. That is, the parties intended a continuous sequence of responsibility for maintenance and that the running-in period would only be completed when the machine came up to normal operation and, normal operation having failed, the responsibility for maintenance remained with Essex. Therefore, contrary to Essex's claim, Amax did not violate its obligations under the bailment lease agreement by refusing to assume the responsibility for maintenance. Essex, therefore, was not justified in removing the machine under 7(d) of said agreement. Such removal by Essex constituted a breach of the bailment lease agreement and an anticipated repudiation of the supply contract.

Essex's Defense of Consent of Waiver

As an affirmative defense to Amax's allegation of breach of contract, Essex asserts that by failing to prevent the

removal of the Properzi 8—either physically or by obtaining an injunction against its removal—Amax waived any claims it had against Essex rising out of the removal. That is, Essex argues that Amax, in effect, consented to the removal and, therefore, waived the claim that the removal was in violation of the bailment lease agreement.

At trial the evidence was such as to negate this allegation. Indeed, as revealed in letters dated May 17 and May 29, 1968, (Exhs. P-31 and P-34), Amax's position was consistently one of opposition to the unilateral removal of the Properzi. Further, although Amax considered seeking equitable relief to prohibit the removal of the Properzi (Tr. 701-02), Amax was advised by local counsel that it had an adequate remedy at law for damages for breach of contract. See, *Williams Tilt-up Contractors* v. *Schmid,* 326 P.2d 41 (Supreme Ct. Wash. 1958).[2] Neither through its actions nor words did Amax intend to waive any claims it had arising out of Essex's breach of contract. See, *Davidson* v. *Klaess,* 280 N.Y. 252 (1939); *Parson* v. *Lipe,* 158 Misc. 32, 286 N.Y.S. 60 (Onondaga Co. 1933), *aff'd,* 243 A.D. 681, 277 N.Y.S. 428 (4th Dept. 1935), *aff'd,* 269 N.Y. 630 (1936). Accordingly, Amax instituted the present case within the year following removal.

Essex's Defense of Accord and Satisfaction

Essex asserts the further affirmative defense of accord and satisfaction in response to Amax's claim for damages. Essex contends that the parties agreed to a full settlement of all outstanding disputes at a meeting held on July 25, 1968. Essex says that said settlement is reflected in the restrictive endorsement on the back of a check submitted

2. Insofar as this case arises under the diversity jurisdiction of this court, the contract law of New York has been applied. Reference to Washington law in the text is made merely to illustrate that the general proposition that damages are the usual remedy for breach of contract is recognized in the situs state.

by Essex to Amax (Exh. P-21),[3] that Amax retained the check for five months and thereby agreed to the condition, i.e., settlement of all disputes, on which payment was tendered.

In response, Amax contends that the discussions at the July 25, 1968 meeting were limited to settlement of a pending collateral controversy regarding the proper allocation of fixed costs at Intalco to the Properzi project, that nothing was discussed at the meeting regarding any controversy arising out of Essex's termination of the Properzi contracts, that the $424,898.95 figure on the check represented the amount for which the parties agreed to compromise the outstanding fixed costs billing dispute, and that Amax's holding the restrictively endorsed check for five months without cashing it did not constitute acceptance of the condition on which it was tendered.

The court concludes that the preponderance of credible evidence at trial supports Amax's position. More particularly the court notes that as of July 5, 1968 a balance of $452,738.95 of Amax's total billings to Essex remained outstanding. Of this amount Essex conceded that "$384,908.95 [had a] basis in fact, but the $67,830.00 of fixed charges [had] never been resolved to [its] satisfaction." (Exh. P-19. See, Exhs. P-14, P-18, P-20, and P-103.) Hence, Mr. Dunstan, vice-president of Essex, suggested a meeting with Mr. Clough, vice-president of Amax specifically to settle this "fixed charges" dispute, (Exh. P-19, Tr. 418), to which Mr. Clough agreed, (Exh. P-20).

The court finds that the parties compromised the outstanding billing dispute for $424,898.95, without reference to any possible breach of the bailment lease or supply con-

3. The restrictive endorsement referred to reads as follows:

"Negotiation of this check constitutes final settlement of all disputes arising from Bailment Lease Agreement and Purchase and Sale Agreement, both dated December 14, 1966, between Essex Wire Corporation and American Metal Climax, Inc."

tracts. In support of this finding the court relies heavily on the fact that the exchange of letters preceding this meeting, (Exh. P-19, P-20) indicates that the parties anticipated that the negotiations would be limited to the outstanding billing dispute. The court further notes that while Essex's representative was accompanied by Essex's attorney Mr. Seifert, Amax's representative was without counsel at the meeting of July 25, 1968. (Exhs. P-19, P-101, D-12; Tr. 62-67, 122-24, 494-95, 530-33, 557-58.) It seems extremely unlikely that sophisticated business people would settle a dispute of the present magnitude without the advice of counsel and without a written agreement. Finally, the court notes that in order to prevent negotiation of a check bearing an endorsement reflecting terms other than those to which the parties had agreed, Clough took the precaution of circulating an inter-office memorandum alerting other Amax personnel to the possibility of an incorrect endorsement and advising them to consult with him to determine the acceptability of any substantial checks from Essex. (Exh. D-46). Although mindful of the potentially self-serving nature of this evidence, the court concludes nevertheless that Amax did not intend to, nor did it assent to Essex's assertion that all disputes between them were thus settled.

Essex maintains that irrespective of any express agreement by Amax to a full settlement, Amax's retention of the check with its restrictive legend for over five months constituted an acceptance. The court does not agree. Retention of a check tendered as full payment of a disputed or unliquidated claim, even without cashing or otherwise using the funds, can under certain circumstances constitute an acceptance of the check as payment or settlement of the claim. *See, e. g., Globe Indemnity Co.* v. *Winfield,* 76 N.Y.S 2d 557 (1st Dept. 1948); *N. Y. Jurisprudence, Accord and Satisfaction* §12 (1958). As the cases make clear, acceptance is traditionally triggered by retention for an "unreasonable length of time," *Kartinganer* v. *Cohn,* 129 Misc.

910, 223 N.Y.S. 465 (App. Term, 1st Dept. 1927), and "reasonableness" is a question of fact to be determined with reference to the circumstances of each case. *Patten* v. *Lynett*, 133 A.D. 746, 118 N.Y.S. 185 (1st Dept. 1909).

The court concluded that given the complexity of the legal issues involved in the controversy and the amount of money at risk, the passage of even five months was not an unreasonable length of time to permit Amax to assess its position. Amax retained the check, without inquiry or objection by Essex, and at all times continued to look to Essex for an amount greater than the check. *Chesapeake Industries* v. *Brandt*, 137 N.Y.S.2d 195, 200-01 (Sp. Ct. N.Y. Co. 1954). In sum, the court finds that Essex has failed to carry its burden of proving accord and satisfaction through either the express or implied acts of Amax.

Essex's Defense of Estoppel

As a final defense, Essex claims that Amax is estopped from denying that it accepted Essex's check in the amount of $424,898.95 in full settlement of all disputes arising from the Properzi contracts. Essex alleges that Amax, through its acts, induced Essex to change its position to its detriment in reliance upon Amax's misleading conduct.

From all the evidence the court concludes that this defense must fail, since the court finds (a) that Essex did not change its position, (b) that even if it could be said that Essex did change its position, such change could not have been in reliance on Amax's action or inaction, and (c) that even if it could be said that Essex did rely on Amax's conduct, such reliance was misplaced.

Although Essex notes that the final settlement terms with Nichols, Continuus and OTT were agreed to on October 14, 1968 (Exh. D-304)—some two months after the restrictively endorsed check was submitted to Amax—and although Essex takes great care to point out the differences between the terms of the original negotiations in

June 1968 (Exhs. D-276, P-26), and those finally offered in October 1968 (Exhs. D-303, D-304), the court does not agree that these minor variations constitute a "change" for purposes of successfully asserting the equitable estoppel defense. Further, the court notes that the credible evidence clearly shows that Essex was negotiating the release of its claims against Nichols, Continuus and OTT. *Prior* to the removal of the Properzi from Intalco (Exhs. P-26, D-276), so that the argument that the release is solely attributable to Amax's conduct is simply not believable.

Finally the court concludes that, even if it could be said that Essex did change its position and did so in reliance on Amax's conduct, such reliance was misplaced. Amax had not consented to the removal of the Properzi and had not negotiated the restrictively endorsed check. Despite its knowledge that Amax had failed to negotiate the check, Essex nevertheless proceeded to release Nichols, Continuus and OTT. Essex relied on the hope that a settlement with Amax could be effected. Instead Essex should have waited for more tangible evidence that the slate, as between the parties had been wiped clean.

To invoke the equitable estoppel defense, Essex must have "rightfully" relied on another's conduct. *Metropolitan Life Insurance Co.* v. *Childs Co.*, 230 N.Y. 285, 292-93 (1921). The court will not sanction misplaced reliance on acts, which, even viewed in a light most favorable to Essex, were at best equivocal. That is, a party may not foolishly rely and then turn self-inflicted adversity into advantage at an innocent party's expense, by invoking the doctrine of equitable estoppel. The court accordingly rejects Essex's estoppel defense.

Damages: Lost Profits

Amax claims damages in the amount of $4,090,140. by reason of Essex's breach of the lease agreement and anticipatory repudiation of the supply contract. Essex argues

that Amax has failed to carry its burden of proof as to damages in this "new venture" situation. In support of this claim, Essex urges the court to deny recovery on the theory that Amax's proof as to lost profits is too speculative to permit an award of damages. As a miscellaneous matter, Essex also claims it suffered damages in an amount no less than $255,896.95 due to Amax alleged breach of the lease agreement. Of course, having rejected Essex's assertion of breach of contract by Amax, this claim cannot be entertained.

For the reasons which follow, the court concludes that on the basis of this record plaintiff is entitled to $4,090,140 damages. This figure represents the loss of prospective profits, directly and proximately caused by the breach.

As Essex correctly notes, loss of profits in a new venture situation, as opposed to an ongoing business, are generally not allowed. *For Children, Inc.* v. *Graphics International,* 352 F.Supp. 1280, 1281 (S.D.N.Y. 1973) (Weinfield, J.). However, "if profits were in the contemplation of the parties and there is shown some rational basis for determining such profits, they may be recovered as damages." Id. at n 16 (cases collected). Here, profits were surely contemplated; in particular, under the bailment lease agreement, Essex was to receive a royalty based on Amax's profits due to sales to customers other than Essex. Moreover, testimony and documentary evidence at trial provided a rational basis for calculating lost profits with the particularity appropriate to any future event. *E.g.,* (Exh. D-30, P-106) (Tr. 164, *et seq.*)

In reaching the conclusion that lost profits are the correct measure of damages in this case, the court is guided by the standard set forth in New York's Uniform Commercial Code. Under §2-708 the traditional approach—contract price less market value—is set forth in subsection one. However, both the code and cases anticipate that the contract-market formula might be inappropriate in some

cases. *E.g., American Broadcasting Paramount-Theatres, Inc.* v. *American Mfrs. Mut. Ins. Co.*, 265 N.Y.S.2d 76, 88, 48 Misc.2d 397 (Supreme Court, New York County), 271 N.Y.S.2d 284, 17 N.Y.2d 849 (1st Dept. 1966), *cert. denied*, 385 U. S. 931 (1966). Accordingly, subsection two of §2-708 permits an award of profits where damages provided in subsection one are inadequate to put the seller in as good a position as performance would have done.[4] As noted by the Court of Appeals of New York, *Neri* v. *Retail Marine Corp.*, 30 N.Y.2d 393, 400, 334 N.Y.S.2d 163, 170 (1972), §2-708(2) contemplates the situation, such as the instant one, in which breach by the buyer depletes the seller's total volume of sales. Where the requirements of mitigation, foreseeability and certainty have been met, as the court concludes they have been in the instant case, valuation of damages where manufacturing has been halted is by reference to the seller's lost profits. Harris, "A Radical Restatement of the Law of Seller's Damages: New York Results Compared, 34 Fordham L. Rev. 23, 31 (1965). Further, compensatory damages as provided in the contract-market formula of §2-708(1) are realistic only where the seller continues to be in a position to sell the product to other customers in the market. Here, however, Essex's removal of the Properzi machine precluded Amax's sales of rod generally.

At trial, Amax offered proof of its lost profits in the form of testimony and documentary evidence. In particular, the testimony of Thorley D. Briggs, vice-president of Intalco, presented a credible and rational basis from which

4. N.Y.U.C.C. §2-708(2) reads as follows:

(2) If the measure of damages provided in subsection (1) is inadequate to put the seller in as good a position as performance would have done then the measure of damages is the profit (including reasonable overhead) which the seller would have made from full performance by the buyer, together with any incidental damages provided in this Article (Section 2-710), due allowance for costs reasonably incurred and due credit for payments or proceeds of resale. L.1962, c.553, eff. Sept. 27, 1964.

prospective profits could be gauged. The various claimed costs (*e.g.*, molten metal, machine, labor, power, gas and water) have been explained to the court's satisfaction. This is so despite Essex's efforts at trial to draw into question the cost-accounting evidence advanced by Amax. *E.g.*, (Exhs. D-726, D-729; 447-77.) Accordingly, the court makes the following findings in support of granting the damages claimed by Amax.

a. The cost of producing a pound of Properzi rod at Intalco in May 1968 was 17.0 cents, 15.8 cents of which was for molten metal.

b. Under the supply contract Amax was to have sold 105.9 million pounds of rod to Essex between 1968-1973. (Although the supply contract called for 108 million pounds, 2.1 million pounds had been shipped during the start-up period, pursuant to a separate billing arrangement.)

c. Insofar as the supply contract price was 24.36 cents as of May 1968, Amax's profit on rod sales to Essex would have been 7.36 cents per pound (price minus cost), or $7,794,240. on 105.9 million pounds.

d. Under the Amax-Okinite contract Amax was to have sold 120 million pounds of rod to Okinite between 1968-1972.

e. Insofar as the Amax-Okinite contract price was 26.80 cents as of May 1968, from which 1.40 cents for freight charges and .38 cents for the royalty to Essex as well as the 17.0 cent cost should be deducted, Amax's profit on rod sales to Okinite would have been 8.02 cents per pound, or $9,624,000. on 120 million pounds.

f. Profits Amax would have made on the sale of rod to Essex and Okinite total $17,418,240.

g. However, Amax was able to mitigate its damages, and resold aluminum in the form of T-ingot at a lesser profit than rod sales. In May 1968, the cost of producing a pound of T-ingot at Intalco was 16.2 cents and the selling price was 22.1 cents. Amax sold 225.9 million pounds at a 5.9 cent profit per pound for a total T-ingot profit of $13,328,100. (Exh. P-106; Tr. 88-90, 179.)

h. Applying the formula in N.Y.U.C.C. §2-708 (2), Amax is entitled to $4,090,140. as damages suffered due to Essex's wrongful termination of the Properzi agreements. This figure represents the $17,418,240 profit Amax would have made less the $13,328,100. proceeds of resale.

i. In accordance with C.P.L.R. §§5001, 5004, Amax is entitled to interest on $4,090,140. at the rate of 6 per cent from May 10, 1968.

Damages: Incidental

In addition to the above lost profits, Amax is also entitled to $424,898.95 compromised on the outstanding billing for the 2.1 million pounds of rod actually produced at Intalco in accordance with the agreement of the parties of July 15, 1968, together with interest thereon at the rate of 6 per cent from said date. (C.P.L.R. §§5001, 5004.)

Finally, Amax is entitled to costs to be taxed by the Clerk of the Court.

Amax is directed to submit an order and proposed judgment in conformity with this opinion, on five days' notice.

Dated: New York, New York
November 22, 1974

CONSTANCE BAKER MOTLEY
U. S. D. J.

Order and Judgment

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

[SAME TITLE]

This action having come on for trial before the Court, Honorable Constance Baker Motley, District Judge, presiding, on January 17, 18, 21, 22 and 23, 1974, the issues having been duly tried, the defendant having withdrawn its allegation of a wrongful refusal by the plaintiff to enter into a joint venture with defendant for an aluminum reduction plant, and a decision having been duly rendered and filed November 25, 1974, the Court holding that the defendant breached its obligations under the bailment lease agreement and anticipatorily repudiated the supply contract, and the Court also finding that the defendant failed to carry its burden of proving its defenses of consent or waiver, accord and satisfaction, and estoppel,

IT IS ORDERED AND ADJUDGED that plaintiff, American Metal Climax, Inc., have judgment against defendant Essex International, Inc., on Counts I and II of the amended complaint in the amount of $4,090,140.00, with interest thereon from May 10, 1968, at the rate of 6 per cent as provided by law; and it is further

ORDERED AND ADJUDGED that plaintiff American Metal Climax, Inc., have judgment against defendant Essex International, Inc., on Count III of the amended complaint in the amount of $424,898.95, with interest thereon from July 25, 1968, at the rate of 6 per cent as provided by law; and it is further

Order and Judgment

ORDERED AND ADJUDGED that the defendant take nothing on its First and Second Counterclaims, and that the First and Second Counterclaims be, and they hereby are dismissed on the merits; and it is further

ORDERED AND ADJUDGED that plaintiff American Metal Climax, Inc., recover of Defendant Essex International, Inc., the costs of the action to be taxed by the Clerk of the Court.

Dated: New York, N. Y.
December 17, 1974

/s/ Constance Baker Motley
United States District Judge

Filed
December 20, 1974

Notice of Appeal

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

Index No. 69 Civ. 1979 (CBM)

AMERICAN METAL CLIMAX, INC.,

Plaintiff,

against

ESSEX INTERNATIONAL, INC.,

Defendant.

SIRS:

Notice is hereby given that Essex International, Inc., defendant above named, hereby appeals to the United States Court of Appeals for the Second Circuit from the order and judgment entered in this action on the 20th day of December, 1974.

Dated: New York, New York
January 17, 1975

Yours, etc.,

WHITE & CASE

By Rayner M. Hamilton

A Member of the Firm
Attorneys for Defendant
14 Wall Street
New York, New York 10005
732-1040

Notice of Appeal

To:

CLERK
United States District Court
Southern District of New York
Foley Square
New York, New York

PAUL, WEISS, RIFKIND, WHARTON
& GARRISON, Esqs.
Attorneys for Plaintiff
345 Park Avenue
New York, New York
644-8000

Excerpts of Testimony

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

[SAME TITLE]

New York, New York
January 17, 1974—10:00 a.m.

Before:

Hon. CONSTANCE BAKER MOTLEY, District Judge.

Present:

Paul, Weiss, Goldberg, Rifkind, Wharton & Garrison, Esqs., Attorneys for Plaintiff, By: Jay H. Topkis, Esq., Doris Carrol, Esq., of Counsel.

White & Case, Esqs., Atorneys for Defendant, By: Rayner Hamilton, Esq., Todd Sollis, Esq., Miles Prentice, Esq., of Counsel.

(36) The Court: The plaintiff may proceed by calling its first witness.

Mr. Topkis: With your Honor's permission, we will call Mr. Herbert Clough.

Herbert C. Clough, for Plaintiff—Direct

HERBERT C. CLOUGH, called as a witness by the plaintiff, being first duly sworn, testified as follows:

Direct examination by Mr. Topkis:

Q. Mr. Clough, you have had some educational training, sir. Would you recite it for us briefly, please. A. I am a graduate of the University of Minnesota, and I took graduate work in Columbia University and New York University.

Q. In what fields, Mr. Clough? A. Primarily in business and related fields.

Q. Do you hold any graduate degrees? A. No, sir.

Q. I take it New York University was the last (37) school you attended? A. Yes, sir.

Q. Would you trace your employment history for us? A. Yes. I worked for about seven years with a major public accounting firm.

Q. Starting when, please? A. In 1944.

Then, approximately eight years with South Puerto Rico Sugar Company, and beginning in 1959 I have been employed by American Metal Climax.

Q. When did you have your first experience in the aluminum business? A. When AMAX first acquired an interest in the aluminum business in 1962.

Q. In what fashion did it make that acquisition? A. We bought two companies, one named Kawneer and the other named Apex Smelting Company.

Q. Prior to that time, AMAX had not been in the aluminum business at all? A. Correct.

Q. Did you have any role in making these acquisitions? A. Yes. I was part of the team evaluating companies to acquire and making recommendations for the acquisition.

(38) Q. And subsequent to the acquisition of these two aluminum companies, did you have any continuing involvement in the aluminum business? A. Yes. We ac-

quired an additional company in 1963, and then in 1964 I became full-time vice-president of Kawneer and went into the aluminum operations.

Q. Full-time? A. Part-time in aluminum and part-time in concrete.

Q. Did there come a time when you became a full-time aluminum man? A. Yes, sir. At the end of 1967 I became a full-time aluminum man.

Q. Now, you know that there were a bailment lease agreement and a purchase and sale agreement entered into between AMAX and Essex on December 14, 1966. A. Yes.

Mr. Topkis: Your Honor, at this time perhaps I might offer those. They have been previously marked as Defendant's Essex' 1 and 2, and the copies that were marked, your Honor, were Xeroxes, and to spare your Honor's eyesight, I would substitute, I am sure with Mr. Hamilton's consent, the original documents.

The Court: All right.

Mr. Hamilton: No objection.

(39) (Plaintiff's Exhibits D-1 and D-2 were received in evidence.)

* * *

Q. Mr. Clough, the time these agreements were worked out, what responsibility did you have in connection with aluminum precisely? Let me be more specific. Did you have any role in the negotiation of these two agreements that have just been marked? A. No.

Q. Whose job was that? A. My associates, Mr. Kaufmann and the president of AMAX Aluminum, Mr. Furbacher.

Q. And do I gather that at the time—well, tell us, please, what was the division of responsibility between or among

you, Mr. Furbacher and Mr. Kaufmann? A. Mr. Furbacher was the president, with overall responsibility for AMAX Aluminum. Kaufmann was vice-president in charge of the primary division, and I was vice-president and controller, without responsibility for primary aluminum at that time.

(39a) Q. What do you mean by primary aluminum? A. Primary aluminum is the acquisition of the raw material alumina, and the reduction of alumina into the primary product, and our plant, in doing so, is Intalco, which was previously referred to by you.

(40) Q. Just so that we may all know—one preliminary question:

You have spoken of the Aluminum Division. Is that what you were vice president of, or something like that? A. Yes. AMAX Aluminum Company is a wholly-owned subsidiary of American Metal Climax, and the aluminum company encompasses all of AMAX' interests in aluminum.

Q. And it was that entity of which you were vice president? A. It was that entity of which I was a vice president and these other officers that I have referred to also.

Q. Fine. Now, Mr. Clough, just so we may all know the basic terms we are dealing with, can you trace for the Court and the record, quickly, the way aluminum starts, comes out of the ground, winds up as rod? A. All right. The ore comes out of the ground. It is called bauxite. It is generally a reddish brown material. It generally contains between 40 and 50 per cent aluminum oxide, and the bauxite is refined to eliminate the non-aluminum oxide elements in chemical process, usually at the site of the bauxite mine.

In our case, that is in Australia.

(41) Then the aluminum oxide, which is a white powdery material, is then shipped in bulk, maybe 40,000 tons,

to the aluminum reduction plant. In our case, on the Pacific Coast, as you have described it, Intalco.

This aluminum oxide, this white powdery material, is then placed in large cells which look like bath tubs about 30 feet long and 10, 12 feet wide, which are, we call them pots, p-o-t-s.

And there the aluminum oxide is put into a bath of molten cryolite and an electrolytic process, using vast quantities of electric power, separates the oxygen from the aluminum in this white powder, and the aluminum there, under tremendous heat, forms in a molten form in the bottom of these pots, and it is sucked out by a vacuum-type operation into large tubs, called crucibles, and these tubs are then taken to a section of the plant called the cast house, and the molten aluminum then is poured into various forms, molds, forms in which the metal will harden, and then this hard metal in the various forms and shapes are taken off to fabricating plants for further fabrication into the multitude of aluminum products that exist.

In the case of aluminum rod, I believe you have described it rather adequately. That molten aluminum, taken from the bot lines in these crucibles, is dumped into furnaces (42) to hold it, to feed it into the casting wheel, as you have described, and I believe we have got pictures, in fact, if they're of interest.

This, I might add, is a vast operation. The Intalco plant covers well, we have a total of about 1200 acres, about 500 acres is plant itself. It represents an investment of about $200,000,000, and it employs something over a thousand people—to give you a dimentional feel.

Q. And do I gather that what happens at Intalco is that ships come in bearing this aluminum oxide, or alumina, as it is called, and out at the other end of the plant comes an end product which may be either ingot or if you had a Properzi there, rod? A. That's correct.

Mr. Topkis: Let me show you something, your Honor, rather than try to mark it. Let me just say I will hold it, if your Honor will permit, and we will have it available in any court we are in (indicating).

Q. This is a cross section of an ingot, Mr. Clough? A. That is a type of ingot.

The metal can be hardened into any shape or form. Depends on what you want to use it for. If it is to be used for the making of sections for windows and doors and that kind of a thing, why it is formed into a log of various (43) types which is further processed by an extrusion process.

So that there is no limitation to the form in which that aluminum can be cast, practically no limitation.

Q. And so far as the rod is concerned, that comes off the Properzi, what is its end use? A. For the manufacture of wire and cable.

Q. And why is aluminum desirable in manufacturing wire or cable? A. Well, aluminum is ductible. It can be formed and bent and shaped. It is conductive of electricity. And it is probably the second or third most desirable, from the standpoint of technical conductivity, but it is vastly cheaper than the competitors.

Silver is very conductive. Copper is the common conductor. But in terms of economics, aluminum is superior.

Q. What is the annual output of a plant such as Intalco, or of Intalco? A. 260,000 tons a year.

Q. 520 million pounds? A. That's right. 720 tons a day, approximately.

Q. Now, can you describe to her Honor, what the Properzi does? A. Properzi is—perhaps to clarify, Properzi is the name of the manufacturer, the inventor and manufacturer of (44) this particular machine. There are others which do similar work. But in this case—have you

got a picture, Jay? A picture is worth a lot in my explanation.

Q. I have a handful of pictures.

Mr. Topkis: Which I may say, your Honor, Mr. Hamilton was good enough to supply us.

Q. They're marked on the back, so if you refer to any one in particular, Mr. Clough, perhaps you'd identify it for the record? A. Okay. I should have had this a bit in advance.

This is molten aluminum flowing out of the furnaces.

* * *

Q. Which photograph are you referring to? The number is on the back.

The Court: If he is going to talk about them, maybe we ought to have them received.

* * *

(45) The Court: Refer to the number on the back as you talk about each picture.

The Witness: D-700B merely shows the way the molten aluminum flows out of a furnace, and in the case of a Properzi operation, it flows in this trough out on to a large wheel, a picture which we do not have very adequately, on a very large wheel, which is cooled, and as the aluminum, molten aluminum flows into an indentation on this wheel, the cooling in the wheel begins to freeze it, solidify it so—

(46) Mr. Hamilton: Your Honor, I am going to have to object, unless there is some evidence here as to Mr. Clough's knowledge of the Properzi, how it works.

There is no evidence here yet that he has even seen one. He's basically an accountant. I have let

Mr. Topkis explain the general aluminum industry without objection, but if we are going to get into the technical requirements of this machine, I object to it. Just a general answer, on that basis.

The Court: What do you say, Mr. Topkis?

Mr. Topkis: I will qualify the witness, your Honor.

The Court: All right.

By Mr. Topkis:

Q. Mr. Clough, you have seen Properzis in operation. A. Yes, sir, I have.

Q. Many times? A. Well, I have seen them at two different locations.

Q. Mr. Hamilton suggested that you are an accountant. That is certainly true as a matter of your training. Have you spent the last six or seven years as an accountant, or as an alur inum executive? A. No, sir, I am an aluminum executive.

Q. You have spent a good deal of time around (47) aluminum mills and plans and the like? A. Yes, I do.

Q. You are concerned with the operation of machinery? A. Yes, sir.

Q. Its purchase and sale? A. Yes, sir.

Q. And would you continue, please, with her Honor's consent, your description of how this machine operates?

The Court: All right.

(48) A. Well, the molten metal falls on to a casten wheel which is continually turning around and the object is to solidify this molten metal originally into a continuous band shown on D-700E.

And this, your Honor, is a cross section of approximately a triangular section in variant sizes, but of approximately four and a half inches on a side.

And that strip runs continuously then up into a milling operation, which is shown on D-700H, and the objective here is to take that cross section, which I described, and to roll it in a series of rollers down into this three-eighths inch redraw rod sizes which was illustrated here.

That redraw rod is then continuously fed on to a coiler, generally, and it is coiled into the type of coil shown on D-700I. This is the form in which the material is then transported to a wire and cable mill and subsequently drawn down into various types of wire and cable.

Q. Thank you, Mr. Clough.

Now, going back to the year 1968, Mr. Clough, did there come a time when you took over some of Mr. Kaufmann's responsibilities? A. Yes. Early in 1968, I took over the function of head of the Primary Aluminum Division.

Q. And Mr. Kaufmann passed on to other responsibilities? (49) A. Yes, sir.

Q. Who was responsible then for dealing with Essex? A. Well, there was a transitional period in which Mr. Kaufmann and I worked together, and particularly when the dealings with Essex culminated in their termination notice, et cetera, I was not familiar entirely with what had gone on before, and therefore, Mr. Kaufmann worked with me in dealing with the Essex matters.

Q. But as of May 10, 1968, when Essex mailed its termination letter, and perhaps at this point, I might offer it as Plaintiff's Exhibit P-29, your Honor.

Mr. Hamilton: No objection.

(Plaintiff's Exhibit P-29 is received in evidence.)

Q. As of that date, Mr. Clough, did you have such responsibility that such a letter would come to your attention? A. Yes, sir.

Q. Before we go to that, Mr. Clough, just a couple of other details to fill in, if I may.

How big is a Properzi machine, or specifically, how big is the number 8? A. Well, I can't give you precise dimensions, but the whole installation will be approximately a hundred feet (50) from the furnaces on through the coiler in length and it would take a space in a building of about 30 feet wide.

So 100 by 30 would accommodate it.

Q. And this plant at Intalco, Mr. Clough, by whom is it owned? A. It is owned 50 per cent by AMAX, 50 per cent by Howmet Corporation, H-o-w-m-e-t.

Q. That is as of today? A. As of today, correct.

Q. As of 1968, how was it owned? A. Originally it was owned 50 per cent by AMAX, 25 per cent by Howmet, and 25 per cent by Pechiney Enterprises, P-e-c-h-i-n-e-y, which was a subsidiary of the Pechiney Company in France.

I don't know the precise name.

At some point in time, Pechiney Enterprises merged its interest, 25 per cent interest, into Howmet. So I don't know precisely the date that took place.

Mr. Topkis: To go into the discussions between the parties and I would respectfully suggest to your Honor, that you might want to take a look at the letter of termination.

The particular aspect of it I would call to your Honor's attention, is there is nothing in there about (51) any failure on the part of AMAX, or the people at Intalco, to give any back up to this operation.

(Handing.)

(Pause.)

The Court: All right.

By Mr. Topkis:

Q. Now, Mr. Clough, after this letter, Plaintiff's Exhibit 29, came in, did you have any discussions with anyone at Nichols? A. Yes. I had discussions on the phone with Jim Morris, who was president of Nichols.

Q. Nichols, I think, we are all in agreement—it is stipulated, Mr. Hamilton, Nichols is the American distributor or agent of the Properzi machine.

Mr. Hamilton: Yes.

Q. So you had a telephone conversation with Mr. Nichols? A. Mr. Morris.

Q. Mr. Morris, I beg your pardon.

You thereafter received a document, which I will offer, if you tell me you received it, as Plaintiff's Exhibit D-20.

Will you look at it, please, and tell me whether you did in fact, receive that? (52) A. Yes, I received that.

Mr. Topkis: I offer that in evidence, your Honor.

Mr. Hamilton: No objection.

Mr. Topkis: I would suggest, your Honor might want to read that at this point.

(Plaintiff's Exhibit D20 received in evidence.)

(Pause.)

The Court: All right.

(53) Q. Now, Mr. Clough, why did you decide to reject this offer, if you did? A. Well, that machine didn't belong to us. It belonged to Essex and it was their responsibility to run in the machine and get it started. They had specified the equipment and they had brought forth the technique to start it, and we had no right, to my knowledge, to accept such an offer and go out and put it into force.

The Court: What does "run in the machine" mean?

The Witness: To get it started operating, to train the people to do all that is necessary to get it operating the way it should normally operate, make such changes as may be necessary.

I guess, as in the case of an automobile that needs adjustments and repairs and certain changes in equipment, et cetera, to get it operating the way it's supposed to.

The Court: Does it mean up to its representation or does it mean something less?

The Witness: Well, there is a document representing an agreement somewhere in which I believe the parties stipulated that 90 per cent of rated capacity would constitute completion of run in.

(54) Mr. Topkis: I think, your Honor, Mr. Clough is referring to a document or a couple of documents as to which there is a stipulation, and perhaps I could just briefly read it to your Honor to simplify matters.

The Court: Yes, sir.

Mr. Topkis: "By an exchange of letters dated January 22, 1968 and February 8, 1968, tentative agreement was reached between AMAX and Essex that the Model 8 Properzi would be deemed 'operating normally' when, (a) the Properzi has operated for two weeks at an average production of 90 per cent of the rated 14,000 pounds per operating hour on the original first trained snift; (b) the Properzi has produced in the two weeks mentioned in (a) above at least 750,000 pounds of acceptable redraw rod; (c) the Properzi production crew size has been stabilized at no more than 6 people per shift while the machine is in operation."

Then there is something more about certain kinds of equipment which I don't think is pertinent.

Mr. Hamilton: Would you read the rest of it, please, if you are going to read the stipulation?

Mr. Topkis: Gladly.

It goes on, "The fourth condition proposed by Essex concerning spare parts was, (d) the items re-

lating (55) to equipment details questioned by the Intalco operating people have been discussed with the various maintenance and operating supervision and decisions arrived at for safe course of action. In regard to spare parts, we'—Essex—'have ordered the original group of spares for the mill as recommended by Properzi, amounting to $75,403. In addition, we have ordered electrical spares amounting to $9,228 and parts for the lubrication system amounting to $3,656, as recommended by Properzi. We feel that as far as costs are concerned, this would be the extent of Essex' responsibility for spares and AMAX would return the value of parts at the end of the contract. For information purposes, C. V. Kilburn will pursue more accurate maintenance data for Type 8 Properzi and will revise the list when better information is available. With respect to this fourth condition proposed by Essex, AMAX vice-president Kaufmann replied, 'Your proposal on spare parts under (d) seems to be reasonable, but I would prefer to wait until the people at Intalco have gone over the complete list per the procedure we had set up in Bellingham at our earlier meeting before I give final agreement.' ''

The Court: What I was getting at was your use of the term ''run in the machine.'' Does that cover all (56) of that or just portions of that stipulation?

That was directed to you.

The Witness: I beg your pardon?

The Court: I just want to understand what you mean by these terms of art in this field. ''Run in the machine'' must have some meaning. I want to know what it means.

The Witness: Run in the machine means to get it operating up to whatever the agreed upon capacity is, and in this case it was indicated at 12,600 pounds per hour of satisfactory product.

The Court: All right. You may proceed.

Mr. Topkis: I think I can shorten this.

I will now offer Exhibit P31, the response to the attempted letter of termination.

The Court: P31?

Mr. Topkis: Yes, your Honor.

(Plaintiff's Exhibit No. P31 received in evidence.)

The Court: That was your response to Nichols?

Mr. Topkis: No, to Essex' termination letter, if your Honor would perhaps wish to read it.

The Court: All right.

(Pause.)

* * *

(59) Q. Now, Mr. Clough, at the tail end of Exhibit P34 there is a suggestion by Mr. Furbacher that the parties might meet to discuss the matter. Was any such meeting held? A. There was a meeting held—which matter are you referring to?

Q. The question of the dispute between the parties as to the right of Essex to withdraw the Properzi from Intalco. A. To my recollection there was no meeting. At any rate, I didn't attend any meeting.

Q. Wasn't there a meeting in Detroit? A. Yes, but that was subsequent, about June 10th, I believe, and the discussion there was primarily as to whether we could reach some arrangement by which an amendment of the conditions or terms and conditions could be made to accommodate both parties and continue the operation.

Is that what you had in mind?

Q. Well, whatever meetings and discussions were held I'd like to put on the record. A. Yes, I recall that meeting in Detroit.

Q. And could you tell us what happened? First, who attended that meeting? (60) A. Mr. Furbacher and I attended; Mr. O'Malley from Essex; and I believe Mr. Dunstan from Essex.

Q. D-u-n-s-t-a-n? A. —o-n.

Mr. Hamilton: —a-n.

The Witness: —a-n? I beg your pardon.

Mr. Hamilton: Yes.

Q. And that meeting was held when, sir? A. The record will show—

Q. I think we have it established at June 10th. Does that accord with your recollection? A. That was my recollection.

Q. All right.

Now, would you tell us, please, what was said at that meeting, as best you recall it? A. Well, there was a discussion as to whether we could offer an adjustment of the price by which Essex was buying the hot metal from us and Intalco, and then we discussed at some length whether we could agree upon a price at which Essex would sell the Properzi to AMAX. The results were that we could reach no agreement on either matter.

Q. Were there any further discussions on these subjects, either face-to-face or by telephone? (61) A. I believe that Mr. Furbacher had further discussions on the telephone with O'Malley.

Q. How about yourself, sir? A. I had some further discussions on the phone with Mr. Dunstan but they were not fruitful.

Q. Did you make any particular proposals to him, or did he make any to you, that you recall? A. Yes. We proposed to buy the machine for something approximating $825,000. They, however, felt they should get about a mil-

lion four hundred thousand dollars for that machine, in that approximate dollar area.

Q. Did either side move toward the other at all, or by any variance or anything? A. It's my recollection that the gap was so wide and the parties' position so firm that there was no movement.

Q. Now, while these discussions were going on, were they contemplating a continuation of the purchase and sale agreement with reference to rod? A. I believe they were not because in one of the communications we received from them, I believe it's stated that it is their position unequivocally that the purchase and sale agreement is terminated.

Q. Now, there came a time when you knew that Essex (62) was going to remove the Properzi from the Intalco plant? A. Yes, sir.

Q. And AMAX did not interfere with that removal? A. That's correct.

Q. Could you tell the Court why you didn't? A. We consulted counsel on this matter, making him aware of all of the factors involved. Our position, as stated in our responses to their notification of their action, and our house consulted outside counsel in the State of Washington, and thereupon advised us not to interfere with the removal of the Properzi.

Mr. Topkis: Turning to another subject, possibly, I will offer Plaintiff's Exhibit P18.

The Court: Any objection?

Mr. Hamilton: No objection, your Honor.

(Plaintiff's Exhibit No. P18 received in evidence.)

Mr. Topkis: I would then offer, your Honor, the response to the last exhibit, which will be Plaintiff's Exhibit D12, a letter from Mr. Dunstan to Mr. Clough, dated July 5, 1968.

Mr. Hamilton: No objection.

(Plaintiff's Exhibit No. D12 received in evidence.)

(63) Q. Mr. Clough, there is a note in the corner of the exhibit, which has just been marked.

Is that in your handwriting? A. Could I see the exhibit?

Mr. Topkis: I think her Honor has it.

Q. This is the note I am referring to, down at the bottom. A. Yes, yes, that is my handwriting.

Q. Would you read it, please? A. It says, "Met with J.C.D. in N.Y.C., July 25, and agreed to accept $424,898.95."

Q. And is there anything further there, or could you translate the shorthand for us? A. There is an arrow connecting that last named amount to the amount stated in Mr. Dunstan's letter of $452,738.95.

Q. And J.C.D. is Mr. Dunstan? A. Yes, sir.

Mr. Topkis: Now, your Honor, I would like to offer Plaintiff's Exhibit P-20, a copy of a letter from Mr. Clough, to Mr. Dunstan, dated July 22, 1968.

Mr. Hamilton: No objection.

(Plaintiff's Exhibit P-20 received in evidence.)

(64) Q. Mr. Clough, I take it that as a result of this series of letters, a meeting was held; is that correct? A. With Mr. Dunstan?

Q. Yes, sir. A. Yes.

Q. Who was present? A. Mr. Dunstan, Tom Seifert and myself.

Q. Where was it held? A. It was held in the AMAX office in New York City.

Q. It seems to have been held July 25; does that conform to your recollection? A. Yes, correct.

Q. Would you tell us, please, what was said there? A. Well, this meeting was agreed to between Jim Dunstan and I to resolve a long-drawn out hassle over the outstanding account due from Essex, arising out of the Properzi operations.

They were billed regularly for the hot metal supplied to them for various other services and an allocation of fixed costs, all in accordance with our agreement.

For a period of months they had failed to pay these costs, and for a period of months, they had asserted an objection to the allocation of fixed costs specifically.

But even though they registered no objection as to the other than fixed costs, they weren't paying those either, (65) so I persisted in the attempt to collect these outstanding bills, and eventually Mr. Dunstan agreed to pay—

Mr. Hamilton: I object, your Honor. I think the question was, what was the conversation at this meeting, and we have gotten into a rambling answer here, which I don't think is responsive.

The Court: You are telling us what occurred at the meeting? This occurred at the meeting?

The Witness: No, your Honor, I have been—what I have been saying is background to it.

The Court: I see.

We will try to respond just to the question.

The Witness: Okay.

Well, what happened at the meeting was that Jim and I agreed that we should try to resolve, compromise the amount of fixed costs which should be applied to the Properzi operation, in order to settle this outstanding account.

And we discussed back and forth the merits, pros and cons, and we generally agreed that—all of the elements of

the discussion had been had before—we ultimately agreed to settle the $67,000 worth of disputed fixed costs for $40,000 and that was the end of it.

Q. Do you recall what the balance was that you agreed (66) upon? A. The total amount that he agreed to pay, including the $40,000 compromised amount, was 424,000 and some dollars.

Q. Now, did that 424,000 and some dollars represent payment for anything other than bills previously rendered by AMAX to Essex? A. Nothing whatsoever.

Q. Was anything said in the course of this meeting about controversy between AMAX and Essex over the right of Essex to remove the Properzi, and about the termination of the purchase and sale agreement? A. There may have been a casual reference to it, but there was no discussion of the merits or demerits.

Q. Was any part of the sum of 424,000 and some odd dollars paid on account of the controversy I have just referred to? A. No, absolutely not. The contention that this is a possibility is so ridiculous because, as a matter of fact, I had reduced the amount of our invoices by—compromised out 27,000 odd dollars of what we considered to be legitimately due.

I can't in any way imagine how it could be contended to have more to do.

(67) Could I further state that I had no authority to compromise out this major matter which had arisen? This was clearly outside of my scope.

Mr. Hamilton: I object, your Honor. That is just a gratuitous addition. It is non-responsive. It has nothing to do with the case.

The Court: I will overrule your objection.

Mr. Topkis: Your Honor, at this point, in the interest of your Honor being best able to follow the

continuity, I would offer Plaintiff's P-19, which is the parallel document to Plaintiff's Exhibit D-12.

The Court: And this is Plaintiff's Exhibit what?

Mr. Topkis: This is P-19.

You have already seen Mr. Clough's copy of this, your Honor, and now I am going to show you the Essex copy of the same document for the notation that is on it.

The Clerk: Any objection?

Mr. Hamilton: No objection.

(Plaintiff's Exhibit P-19 received in evidence.)

Mr. Topkis: I call your Honor's attention to the notation in the lower left-hand corner of that document.

(68) Q. Now, Mr. Clough, following your meeting with Mr. Dunstan and Mr. Seifert, on the 25th you sent a memo to various people at AMAX, is that right? A. Yes, I did.

Mr. Topkis: I have just shown the witness Plaintiff's Exhibit D 46, and I will now offer it, your Honor.

Mr. Hamilton: No objection.

(Plaintiff's Exhibit D 46 is received in evidence.)

Q. Mr. Clough, showing you Plaintiff's Exhibit D 46. I will ask you, sir, whether when you dictated that memorandum you had received any check from Essex? A. No.

Q. Why did you send the memo? A. Well, frankly, I suspected that we might get such a curve, as we ultimately got, in the way of a restrictive endorsement.

I had been familiar with the business being done with this company for only about three months or so, and I found that, A, they didn't pay their bills for the metal we were

supplying them; B, they welched on the deal which would enable us to get into the rod business, and on which we had built substantial for projection of profits, and then when we tried to compromise a situation to enable them (69) to continue doing the purchase and sale agreement, we had gotten nowhere.

And I frankly was suspicious of the possibility that they would do exactly what they did.

Mr. Topkis: And I will now offer, your Honor, Plaintiff's Exhibit P-21.

Mr. Hamilton: No objection.

(Plaintiff's Exhibit P-21 received in evidence.)

By Mr. Topkis:

Q. Mr. Clough, the Plaintiff's Exhibit that you have just considered, Plaintiff's Exhibit 21, is the letter from Essex by Mr. Seifert to you dated July 25, 1968.

You did receive that letter? A. Yes, sir.

Q. What did you do when you received it? A. I discussed it with our house counsel.

Q. Without going into the substance of that conversation, what did you do then? A. I put it in my drawer.

Q. What else? A. I discussed it with Mr. Furbacher and asked our house counsel what he would recommend as a procedure.

At that time it appears that the chief internal counsel, Mr. Farley, was not available. I don't recall (70) exactly where he was, but he came back sometime later and there was a further discussion.

Q. And what happened as a result of these discussions, if anything? A. It was decided to present the possibility of filing a suit against Essex with outside counsel, and I can't recall precisely the date that we did consult outside counsel, but the record will probably indicate it.

Q. You did, in any event, consult outside counsel? A. Yes, sir.

Q. And you subsequently had some discussions with them? A. Yes, sir.

Q. Did that outside counsel make any investigation of the facts, to your knowledge? A. Yes, they did.

Q. Where, if you know? A. Where did they investigate?

Q. Yes. A. They went to—I believe they went to Intalco, I believe that they surveyed the records in our office in Greenwich and pertinent records in the offices of the company in New York City.

Q. And at some point you received a report from (71) outside counsel? A. That's correct.

Mr. Topkis: I will now offer a copy of a memorandum marked Plaintiff's Exhibit D 49 for identification.

Mr. Hamilton: No objection.

(Plaintiff's Exhibit D 49 is received in evidence.)

Q. Next, I believe, Mr. Clough, you returned the check to Essex by letter dated January 2, 1969, and I will offer Plaintiff's D51 in evidence.

Mr. Hamilton: No objection.

(Plaintiff's Exhibit D 51 is received in evidence.)

Q. Now, Mr. Clough, according to this chronology then you received the check from Essex sometime reasonably shortly after July 26, 1968, and you did not return it until January 2, 1969.

By holding the check, sir, did you mean to lull anyone at Essex into a false sense of security? A. No. It was clear to me that the people at Essex would know that that

check was being held and not having been passed through, because it is pretty clear that a check of that magnitude doesn't get lost in the shuffle in the bank reconciliations.

(72) I knew Mr. Seifert was probably checking at least daily to find whether the check had been passed through for payment.

Q. Based on your experience as an accountant and corporate executive, would it be likely that the failure of a check to clear, in the amount of $424,000, would escape notice?

> Mr. Hamilton: Objection, your Honor. This is speculation on this witness' part. He doesn't know anything about Essex's accounting system or processes or anything else.
>
> Mr. Topkis: I will reframe it, if I may, your Honor.
>
> The Court: Overruled.

Q. All right, you may answer. A. I am certain in my own mind that it could not possibly escape notice.

(73) Q. Now, according to the record, Mr. Clough, this action was begun on May 8, 1969, many months after Essex' purported termination of the lease and purchase and sale agreement.

Will you tell the Court, please, why you waited so long? A. There was a substantial internal controversy over whether we should sue on the breach of these contracts. The corporate management was dead set against suing. They raised several objections. One was that suits, by their nature, take a great deal of time and effort and money, and that, if anything, our aluminum division, in which they had $250,000,000 invested, couldn't stand a diversion of any management time for the purpose of prosecuting lawsuits, and that you don't make any money prosecuting lawsuits.

You make money expanding your business and running it right.

On the other hand, we in the aluminum division, and particularly I, felt that we had been wronged by Essex, that if we were to be able to put any faith in contracts that we negotiated in good faith, we should be willing to fight for a position which we thought was right. If we were to allow abrogation of contracts willy-nilly, then we would end up in one-sided deals all (74) the while.

Frankly, I felt that I was willing to be involved. I was willing to put forth whatever amount of my time and effort was necessary, not only to carry out my regular managerial duties, but to prosecute this lawsuit.

In this controversy, why, we went out and retained a very prestigious law firm to give us an opinion, because we needed evidence to convince our corporate management that this was a route that they would be willing to follow. And even after getting the opinion of outside counsel, the controversy went on.

Ultimately, why, we were given reluctant permission to go ahead with the suit.

Q. Mr. Clough, there was a suggestion in Mr. Hamilton's opening statement that the reason for your holding up in filing suit was some ongoing business relationship you had with Essex.

Do you recall that observation Mr. Hamilton made? A. He referred to a remark of Mr. Furbacher's, apparently in his deposition, and I—

> Mr. Hamilton: I object, your Honor. There isn't any question pending. He just asked him if he (75) remembered my opening statement, and I guess he did. I don't want to be obstreperous, but it's difficult for me to get an objection in.
>
> He didn't respond to questions.

The Court: The question was "do you remember," is that it?

Mr. Topkis: Yes.

A. I remember the remark in his opening remarks.

Q. Have you had occasion, sir, to check the quantity of business that was being done between Essex and AMAX at this time? And by "this time," I mean the period from, let us say, August 1, 1968 to the end of 1968. A. The reference was to—

Q. The question, sir, is have you had occasion to check the volume of that business? A. I have had a chance to check.

Q. Now, would you tell us, during that period of time, was AMAX selling aluminum to Essex? A. Yes, it was.

Q. What quantity? A. We sold 3.6 million pounds of aluminum.

Q. At what price? A. 25.5 cents a pound delivered. This is billet, (76) homogenized, cut-to-length billet.

Q. Was that a margin price or was that the uniform price? A. That was the average price for this quantity.

Q. Was that price less or more than your average price to other accounts located in Essex' vicinity? A. It was less.

Q. Had you not sold that billet to Essex, did you have other customers available for it? A. Yes, sir.

Q. At comparable prices, or higher or lower? A. Yes, sir, at comparable prices.

Q. Were you selling any copper to Essex during that period? And I'm referring to August 1, 1968 to December 31, 1968. A. We didn't sell any copper.

Am I permitted to elaborate a little bit?

Q. Did you have any dealings in copper with them? A. Yes.

Q. Tell us about them. A. There is a scrap conversion or tolling, as it is known, where the customer—in this case

Essex—will supply scrap back to our copper refinery, and the refinery in turn will turn this into finished product (77) for them, what is known as a wire bar, also used in the wire and cable industry.

And during that period, one of these scrap conversion deals took place in the amount of about 1,000 tons.

Q. About 1,000 tons? A. Yes.

Q. Is that in the period August 1, '68 to December 31, '68? A. Yes, sir.

Q. Do you remember how much money was involved in that deal? A. The total charges were $54,000.

Q. Now, up until the end of 1968, did you have dealings with Essex in any other area than aluminum and copper? A. Not to my knowledge.

Q. And going on into 1969, did you have any dealings with Essex in either aluminum or copper or anything else? A. I checked the period from January 1—January through April, and we had no sales of aluminum to Essex, according to my records. And in copper we sold them 750 tons of wire bar during that period.

Q. During that period, at what rate was your copper (78) production running? A. The copper refinery was running at the rate of about 240,000 tons a year.

Q. So that this deal with Essex was for about 3/10ths of 1 per cent of your copper production? A. Yes, a very small percentage.

Mr. Topkis: If your Honor please, I am going into a new subject. Would it be convenient now to take the luncheon break?

The Court: Yes, it's our luncheon hour. We will recess now until 2:00 o'clock.

(Luncheon recess.)

(79) AFTERNOON SESSION

2:10 p.m.

HERBERT C. CLOUGH, resumed.

Mr. Topkis: Your Honor, before we resume Mr. Clough's testimony, there is one question I wish to put to your Honor, if I may.

As to trial briefs, Mr. Hamilton and I both filed trial briefs with your Honor. I was prepared to exchange them. Mr. Hamilton said that he would prefer to abide by your Honor's preference in that matter.

So, may I inquire of your Honor your preference?

The Court: I just assumed that was automatically done.

Mr. Hamilton: I'd be pleased to exchange, your Honor. The Magistrate just requested that we supply copies to your Honor, and I will be pleased to give a copy of my trial brief.

Mr. Topkis: Fine; we will do the same.

Thank you, your Honor.

Direct examination continued by Mr. Topkis:

Q. Now, Mr. Clough, there is reference in the pleadings here to some injury being suffered allegedly by Essex by reason of AMAX' not making a deal on the (80) joint ownership of a reduction facility, an aluminum hot metal facility.

I would ask you, sir, to your knowledge, has AMAX discussed possible joint ventures in hot metal facilities with other aluminum companies, or other companies engaged in the aluminum business? A. Yes, sir, quite a number.

Q. Starting in, let's say, 1966, you would have been familiar with those? A. I would have certainly been familiar with some of them.

Q. And from 1966 to '68 or '69, can you give us any idea of the number of companies with which you discussed possible jointly owned reduction plants? A. I would say that perhaps eight to ten. I happen to know—I can name at least eleven, but as to that precise period of time, I cannot be absolutely certain.

Q. Is there some particular aspect of the business that brings about such discussions? A. Yes. I would say so. An aluminum reduction plant is a major investment. One which we are considering now, for example, in the State of Oregon, would cost $200 million, and many companies find it difficult to (81) finance such an investment by themselves, and, in addition to that, if they're capable of financing it, it may not be prudent to take the risk of building that entirely, and this applies to cost, I would say, other than the majors, such as Kaiser, Alcoa and Reynolds traditionally build their own, and other majors, but companies with lesser stakes in the aluminum business often invest in these reduction facilities in the form of joint ventures.

Q. And you never made a deal with Essex on a joint venture as to a reduction facility? A. I believe the record is clear, we never did. I was not personally involved.

Q. For that matter, Mr. Clough, that check for $424,000 and some-odd dollars that you returned to Essex, has it ever been tendered back to you, without a restrictive endorsement? A. Not to my knowledge.

Q. Now, Mr. Clough, am I right in believing that there came a time late in 1967 when AMAX made a contract to supply a company called Okonite with certain quantities of aluminum rod produced by the Properzi? A. That is correct.

Mr. Topkis: I will offer, your Honor, if I may, (81a) Plaintiff's Exhibit D136.

Mr. Hamilton: No objection.

(Plaintiff's Exhibit No. D136 received in evidence.)

(82) Mr. Topkis: And I think I may very, very briefly summarize the pertinent provision for your Honor, and that is, that we committed ourselves for the year 1968 through 1972 to supply Okonite with its requirements of 3/8ths rod which were estimated by Okonite as being an aggregate of 120,000,000 over that period, with a right in Okonite to call on us for an additional 120,000 under certain circumstances.

There is a price specified in the contract. Again, it is a set price, but varying depending on the variations in the published price of aluminum ingot, rather parallel to the arrangement we had with Essex.

Q. Now, Mr. Clough, I am going to ask you, if you will, sir, to go back in time to May of 1968, and calculate for us, as best you can, the profits, if any, that AMAX would have made had Essex performed, and had AMAX performed, for that matter, their obligations under the bailment lease agreement and the purchase and sale agreement, Plaintiff's Exhibits D-1 and 2. And I will ask you just to set our framework, if I may: If you recall the quantity of 3/8ths rod that Essex was committed to purchase, starting with 1968 and ending in 1973 under the agreement.

A. Is the question, do I recall the quantity?

Q. Yes. (83) A. Yes, sir. It is set forth in the contract, and it is for those years it aggregated about 109,000,000 pounds, of which we delivered, I believe, about 2.1 million pounds.

Q. 108 million, actually, wasn't it, Mr. Clough, 18 million pounds a year for six years? A. Whatever that calculates out.

Q. Okay. Not to make any mystery of it, I think you and I have collaborated on what is written on the blackboard over here, have we not? A. The remaining amount, to be clear, was 106.9 million that you have there and, if we had already delivered 2.1 million, that means that the total must have been 109 million.

* * *

(84) Q. Mr. Clough, under the Okonite contract, how many pounds were you obligated to deliver? A. 120 million pounds.

Q. That was in the period '68 to '72? A. Yes, sir.

Q. Now, the contract prices, Mr. Clough, can you tell us what they were as of May of 1968, as best you could forecast them. That is to say, how did the situation stand in May of 1968, having allowance for the variation that was possible? A. Under both contracts, the price of the rod was tied to what is known as the book price of ingot, that is the published price of ingot, which is the common product marketed.

In the case of Okonite, it was 1.3 cents a pound premium over the book price.

In May 1968 the book price of ingot was 25 cents, and therefore the price to Okonite delivered was 26.8, that is 25 plus 1.8 cents.

(85) Q. And as to Essex? A. As to Essex, on an F.O.B. Intalco basis as opposed to being delivered, there was a discount from the book price of ingot of .64 cents.

Q. So that there was a net price to Essex— A. Net price to Essex would have been 24.36 at that point in time.

Q. And you said, I think, that the Okonite price was a delivered price? A. Yes, sir.

Q. So that you'd have to pay freight on that? A. Right. So in that calculation on the Board, we show a deduction, in other words, to get down to the net margin, we would have gotten from Okonite, we start with a 26.8 cents, and we deduct a freight amount of 1.4, and furthermore, we deduct a .38 cents a pound, which is a royalty, which was payable by AMAX to Essex in the event that we used their Properzi machine to produce rod for outside sales.

So that again, in arriving at what we actually netted from Okonite, you'd have to deduct that royalty. That brings that down to 25.02 cents per pound.

Obviously in the case of Essex, there was no freight payable by AMAX, nor any royalty, so that the net price is 24.36.

(86) Q. All right.

Now, at that time, specifically in May of 1968, Mr. Clough, did AMAX or Intalco indicate its cost of producing rod on the Properzi machine; that is to say, the cost of hot metal and the Properzi treatment? A. Yes, sir.

Q. And you received a report of that? A. Yes, sir.

Mr. Topkis: Your Honor, I have that report. I will put it in through a subsequent witness, Mr. Briggs, who actually prepared it.

The Court: All right.

Q. Mr. Clough, I take it for present purposes you averaged out that cost at 17 cents, is that right? A. That's correct. It may warrant a slight explanation.

As is well known, the cost will carry slightly, depending on the percentage of utilization, how many pounds you actually produce off the machine. And since it cannot be determined precisely how many pounds you are going to produce, why that exhibit which you referred to calculates the cost at varying capacity levels, and 17 cents is a close

approximation to any foreseeable level we would be running the machine.

(87) Mr. Topkis: Your Honor, just so that we may understand each other, you may perhaps advise the Court that the calculation is that a 70 per cent level of production, the cost was 17 cents and one half million. And that at a hundred per cent productive capacity, it was 16.8 cents.

So that the disparity is almost inconsequential.

Q. So taking 17 cents as your average cost, Mr. Clough, you wind up with a net margin between cost net contract price of 7.36 cents as to Essex and 8.02 cents, as to Okonite, is that right? A. Yes, sir.

Q. And let me ask you, sir, would those margins vary greatly depending on whether you could sell any other rod to any other customers? A. It depends, I guess, obviously on the price at which we would sell the rod to other customers. I don't mean to be sarcastic. Maybe I don't understand your question.

Q. I am asking you whether these margins would vary depending on whether you could sell rod to any other customers? That is to say, if you had to shut down the machines, except for the purpose of producing this rod, would it make any great difference? (88) A. The more you sell, the more you utilize the machine, why the lower your quantity costs are going to be. Conversely, if, for example, you only were producing 10 per cent, or something, or a smaller portion then the costs of producing this rod would be considerably more per pound.

Q. Assuming this minimum levels of production, would additional production save you anything significant? A. It would not save us much.

Q. Now, then, you arrive at your profit figure here, I take it, by multiplying the margin of 7.36 cents for Essex

by the poundage for Essex of 106,900,000 pounds, is that right? A. Yes, sir.

Q. And you wind up with a profit, a rough profit—we will hold the definition for a moment—of $7,868,000. A. Yes.

Q. On the Okonite sales you would similarly wind up with a profit of $9,624,000? A. Right.

Q. Or a total of $17,492,000, right? A. That's right.

Q. Now, Mr. Clough, if you had not had the Properzi available, you would have had the ingot coming off the pot lines, the hot metal coming off the pot lines, and what would (89) you have done with it in the normal course? A. We would have sold it to the extent of our ability to do so, and realized whatever price we could get for the metal.

Q. And you were able to sell the T-ingot in May of 1968? A. Yes, we were selling the T-ingot.

Q. At what price were you selling it? A. The price at that time was 22.1 cents a pound.

Q. Is that an average price? A. That's the average price during that month.

Q. Now, the cost of producing that T-ingot was what, sir? A. 16.2 cents a pound.

Q. And how do you arrive at that figure? A. Well, that is also set forth in the exhibit you have referred to.

Q. All right, we will come to that then.

So that you had a 5.9 cent margin? A. That's correct.

Q. And multiplying that by the total of your Essex and Okonite commitments of 226.9 million dollars over the six years— A. Pounds.

Q. Pounds, I beg your pardon. You wind up, I take (90) it, with $13,390,000 profit had you sold it as T-ingot at the May of '68 price, is that right? A. Not having had the rod to sell, we had to sell that in the form of T-ingot. We did sell it.

Q. You did in fact sell it, right? A. Yes, sir.

Q. Okay. And had you sold it at 22.1 cents on the average, you would have had a rough profit of $13,390,000. A. Right.

Q. And do I take it then that the difference between the profits which you would have made in the two cases, either selling it as Properzi rod or selling it as T-ingot, you calculate as—we hadn't finished after lunch. A. $4,102,000.

Q. $4,102,000.

Q. That I take it is the profit you lost by reason of being denied the Properzi in the Okonite and Essex deals? A. That's correct.

* * *

(91) *Cross-examination by Mr. Hamilton*:

Q. Mr. Clough, I think you testified that you succeeded to Mr. Kaufmann sometime during the spring of 1968, is that correct? A. Yes.

Q. And at the May time period when these letters were exchanged, it was still somewhat of a mutual operation; is that a fair statement? A. At some point I would have been given the responsibility, but would have continued to rely on him for counsel.

Q. At that time, Mr. Clough, had you seen the Properzi in operation out at Intalco? A. Yes.

Q. How many times had you seen it? A. I cannot say precisely. I would say more than two and less than 5, if that's responsive.

Q. But you had seen it two or three times at least, is that correct? A. Yes.

Q. Now, when, in terms of your employment in connection with the Intalco operation, Mr. Clough, did you first become aware of this dispute between Essex (92) and American Metal Climax over the way costs were to be shared? A. Sometime early in 1968.

Q. Prior to May 10, 1968? A. I believe so, but I cannot be precise as to when.

Q. Would you describe for the Court, Mr. Clough, the nature of the costs that were being shared between Intalco —between Essex and AMAX? A. They would have included the fixed overhead, including general supervision, the taxes, insurance, various general plant items, such as safety and security. I believe including such overhead departments as would be involved in employment and fringe benefits, that kind of thing.

Q. Did it include the direct maintenance costs, do you know, for the Properzi? A. I believe the direct maintenance costs were charged directly, those incurred in servicing the Properzi machine, I believe were charged directly to Essex' operation.

Q. Now prior to your meeting with Mr. Dunstan and Mr. Seifert on July 25, 1968, you had billed Essex approximately $660,000; is that right?

(93) Let me show you Plaintiff's Exhibit P18 in evidence, Mr. Clough, just to see if that doesn't refresh your recollection. A. $660,000 is what it shows through the 19th of June.

Q. That included the amount that Essex owed American Metal Climax for the hot metal that was being used in the Properzi operation, didn't it? A. That's correct. I do not know whether this is the total from the beginning. It certainly is the total shown in that period as indicated.

Q. But included in that 660 is hot metal? A. Yes.

Q. Now, Mr. Clough, I think you stated that you received a copy of the Essex termination letter of May 10, 1968, which is Exhibit P29, is that right? A. I saw the letter.

Q. Were you surprised when you got it? A. I was surprised.

Q. Had you had any inkling prior to that time that Essex did not believe that the Properzi was living up to its specifications? A. I was aware that it was not producing as much rod as had been targeted.

(94) Q. Were you aware, Mr. Clough, that Essex believed that the machine could not live up to its specifications? A. I don't think I was aware of that.

Q. Do you remember whether you discussed the specifications question with Mr. Furbacher or anyone else? A. When you say the specifications question, I am not clear.

Q. Do you recall discussing at the time you received the letter of May 10, 1968 with Mr. Furbacher or anyone else, whether or not the Properzi would live up to its specifications? A. Yes, I'm certain that was a matter of general discussion.

Q. Who was Mr. Furbacher at this time, by the way, Mr. Clough? A. Who was he?

Q. Yes. A. He was president of AMAX Aluminum.

Q. You reported to him? A. Yes, sir.

Q. Did Mr. Kaufmann report to him? A. Yes, sir.

Q. Did you have any direct knowledge yourself at (95) this time, Mr. Clough, as to whether or not that machine would in fact meet its specifications? A. No, sir.

Q. Everything you knew was based on what other people had told you; is that correct? A. Yes, sir.

Q. Now, I think you testified that after receiving this letter, someone contacted Nichols Aluminum Company to find out if the machine would live up to specifications; is that correct? A. Yes, sir.

Q. And they responded in that telegram, Exhibit 20, dated May 16th; is that correct? A. That was one of their responses.

Q. Did they have another response? A. Yes. Jim Morris told us that there was no question in his mind but what the machine would live up to its specifications; that in fact

there were other—I think he named specifically two other No. 8 Properzis which were comfortably meeting their targeted outputs.

Q. Was this in a meeting with Mr. Morris? A. I did not have a meeting with Mr. Morris.

Q. So, what you have told us that somebody sometime, somewhere told you; is that right? (96) A. Jim Morris told me this over the phone.

Q. Do you remember when? A. In that general time area that we are discussing.

Q. Before or after the receipt of this letter, do you know? A. I don't recall.

Q. Do you recall whether or not Mr. Morris said anything in that telephone conversation with you about the quality of supervision or the quality of the crew that was operating the equipment at Intalco? A. I don't recall his saying so, but, being a machinery manufacturer, I assume he probably did.

Q. Do you have any recollection of what he did say? A. No, I don't.

Q. Let me show you, Mr. Clough, a document which has been marked Exhibit D21 for identification. I ask you if that is in your handwriting. A. Yes, it is.

(97) Q. Would you look at the first page and see if you can tell me what that document relates to? A. It relates to a phone conversation that I had with Paul Hoboi.

Q. Who was Paul Hoboi? A. He is an AMAX engineer.

Q. Does it relate in any way to a communication with Mr. Morris of Nichols Aluminum? A. The indication is that Hoboi had had a conversation with Mr. Morris and Mr. Raiford who is also of Nichols.

Q. Is there any way you can tell us the date of that conversation? A. Between Hoboi and Morris?

Q. Yes. A. It would—I can't say precisely, but the notation on here is April 30th, which I would interpret to

be the date of my conversation with Hoboi, so that I assume that it preceded April 30th.

Q. Now, in that conversation, Mr. Clough, did Mr. Hoboi report to you any comments that the Nichols Aluminum people had about the supervision of the Properzi at Intalco? A. One of the notations relates to supervision. (98) It appears that this is a list of points which were relayed from Nichols to Hoboi to me.

Q. Doesn't No. 1 there say, Mr. Clough, need strong supervisor? A. Yes.

Q. Can you recall the nature of what Mr. Hoboi reported to you about the need for a strong supervisor? A. Yes. He said that Nichols had indicated the Properzi operation needs a strong supervisor.

Q. Did he make any suggestions as to who that supervisor should be? A. Somebody has suggested, and it's unclear as to whether it was Nichols or Hoboi or whom, that Les Bloedel would be an appropriate man.

Q. What about No. 5 on that memorandum, Mr. Clough? Does that refresh your recollection as to Nichols' comments on the supervision in Intalco? A. It says, "Need have your man directly responsible, e.g., Briggs."

Q. Do you recall what that meant? A. It meant that Nichols would have liked to see a man like Ted Briggs in charge.

Q. But your best recollection is that at least by May 1, 1966, you were aware that Nichols thought there (99) was a supervision problem in Intalco; is that correct? A. Yes.

Q. Do you remember, in the letter of May 10, 1968, Mr. Clough—

The Court: Excuse me just a minute. The witness asked me if he could comment on something.

Anything that your lawyer thinks ought to be brought out he'll do that on redirect.

The Witness: Oh, okay.

Q. Now, Mr. Clough, do you recall that in the letter of May 10, 1968, Essex stated to you and to American Metal Climax that it was going to send Mr. Kilburn out to the Intalco plant and remove a Properzi? A. I believe it was in that letter they said they would do that.

Q. Do you remember whether or not you concluded whether or not they had a right to remove the Properzi at this time? A. Well, I didn't know whether they had a right to, and I asked our house counsel to give us guidance. This was obviously a legal question.

Q. Would you look at the last letter, Mr. Clough, that American Metal Climax sent to Essex, which is Exhibit P34, and it's your letter of May 29, 1968, and (100) you will notice the next to the last paragraph on the second page indicates specifically that you had concluded that Essex had no right to remove the Properzi; isn't that correct? A. Yes.

Q. Does that conform to your recollection as at or about that time? A. Yes.

Q. Now, thereafter, Mr. Clough, I think you testified that there were some negotiations between AMAX and Essex with respect to the possibility that AMAX might buy the Properzi from Essex; isn't that correct? A. Yes.

Q. And do you remember what period of time those negotiations took place? A. I believe that there were conversations between Mr. Furbacher and Mr. O'Malley, as well as between Mr. Dunstan and myself, and I would—the exact times, Mr. Hamilton, I cannot specify.

Q. Well, to the best of your recollection, Mr. Clough, did these negotiations continue essentially through the month of June 1968? A. They didn't—

Q. There is no mystery, Mr. Clough.

(101) Let me see if I can refresh your recollection here. Let me show you a copy of Defendant's D40.

Isn't that a memorandum which you prepared, Mr. Clough? A. Yes, sir.

Q. And doesn't that reflect a telephone conversation between yourself and Mr. Dunstan on the possibility of selling, of Essex selling the Properzi to AMAX? A. Yes, it does.

We had a meeting on the 10th of June, and this is following, and I would estimate that the discussions didn't proceed much longer than June 18th, because we seemed to be worlds apart in our price ideas.

Q. Well, this document, Defendant's D40, Mr. Clough, indicates on Page 2 as follows: "Jim said that they might take 1.4 to 1.5 million for the complete installation at Intalco as is, but I told him the possibility of our paying above $850,000 was practically nil, except on a maneuver such as I mentioned above."

Is that your recollection of the final position of the parties? A. Yes, sir.

Q. You had offered to buy it for $850,000 and they (102) had offered to sell it for 1.4 to 1.5 million; is that right? A. Approximately.

Mr. Hamilton: I'd like to offer Defendant's Exhibit D40 in evidence.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D40 received in evidence.)

Q. Now, Mr. Clough, let me show you—

The Court: Just a minute.

Mr. Hamilton: Oh, I'm sorry.

(Pause.)

The Court: All right, you may proceed.

Q. Now, Mr. Clough, let me show you a copy of Exhibit D38 for identification, which is a memorandum dated June 26, 1968, which is towards the end of June, obviously, and doesn't that document refresh your recollection that as

late as that date the possibility of AMAX buying the machine from Essex was still open? A. At least it was reopened for that brief moment. I think that I concluded, following the June 18th date that you previously mentioned, that it really was concluded, and Jim Morris apparently was attempting to perhaps mediate or at least clarify the positions.

Q. Well, Mr. Clough, in evaluating whether to (103) accept Essex's offer of a million 4 or to increase your offer of $850,000, what factors did you consider? Do you recall? A. Well, is it clear that any purchase of the Properzi machine by AMAX was predicated upon a continuation of our supply contract with Essex, because without that base load, so to speak, it was not contemplated to be an equally viable operation to AMAX.

(104) Q. So the future of the supply contract was one factor that you considered, is that right? A. Yes.

Q. Now, what other factors? A. We considered the, actually, the alternative of a smaller machine, recognizing that the number 8 operated three shifts continuously, was capable of producing probably at least a hundred million pounds a year, and the number 7 machine, which was a smaller version, would have been capable of producing probably the amount of rod necessary to service the two contracts which we had, so that the alternative of a smaller investment was considered.

Q. Was that alternative the installation of a number 7, of a Model 7 Properzi, the cost of doing that; is that the alternative that you considered? A. That was an alternative.

Q. And isn't it a fact, Mr. Clough, that your offer of 800 to $850,000 was really based upon what it would cost you to install a number 7 machine in Intalco? A. I'm certain that that was at least one of the keys.

Q. Now, in evaluating the Essex offer, and in considering whether or not to increase your offer, did you consider the costs of making rod at Intalco? (105) A. I don't understand.

Q. Well, Mr. Clough, wouldn't it make a difference to you and whether or not you would want to buy a machine, wouldn't it make a difference as to whether or not you can —what the costs of the output are? A. The cost of producing the rod?

Q. Yes. A. Yes, of course.

Q. Do you recall asking Mr. Briggs to make an analysis for you of the cost of producing the rod at Properzi? A. I know that he made such an analysis, and the precise date I do not recall.

Q. Mr. Clough, let me show you Defendant's Exhibit D-30, and I ask you if that isn't an analysis by Mr. Briggs of the cost of preparing rod from a Properzi made on or about June— A. May 29.

Q. May 29, 1968. A. Yes.

Mr. Hamilton: I would like to offer that exhibit in evidence.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D-30 received in evidence.)

Q. Would you turn to the second page of Defendant's (106) Exhibit D-30, Mr. Clough, and read the conclusion there that Mr. Briggs came to, starting there with the words "Herb." A. It says, "Herb, the question of cost is obviously secondary to.

"(1) Is the machine functionally sound and will it do what it is supposed to do, and,

"(2), can you sell the wire?"

Q. Now, Mr. Briggs had concluded, I believe, there, that the costs here was a secondary consideration. Did you

agree with that? A. I don't think costs are ever a secondary consideration. It is one of the key considerations, of course.

Q. Well, did you take any steps, do you know, to answer Mr. Briggs' last two questions, which were, "Can you sell the wire"—did you do anything to try to determine whether or not you could sell the wire? A. We had been and continued for a time, which I can't completely identify, out in the market, sizing up the market for rod. We had visited and discussed possibility of supplying rod to a number of other companies, so that we did have some knowledge of the rod market.

Q. Would you recall whether or not, in response, Mr. Clough, to that memorandum, you updated your market (107) research or that you investigated the market further in order to decide in your own mind whether or not you could sell the wire? A. In response to this memorandum, I doubt there was anything done in response to the memorandum per se; that I would also assume that we were actively reviewing the market, and I believe there are exhibits which indicate that.

Q. Well, is it fair to say that whether or not you could sell the rod was one of the factors that you were considering in deciding whether to up your offer of $850,000 or to accept Essex's offer of a million, three? A. I think that would be a fair assumption.

Q. Now, Mr. Clough, Mr. Briggs' second question was: "Is the machine functionally sound?"

Do you see that? A. Yes.

Q. Do you recall whether or not you did anything to try to determine whether or not the machine was functionally sound? A. We inquired of our people at Intalco for their evaluation. We discussed the matter with Nichols. And we inquired of two other operators of number 8 Prop-

erzi machines, Alcoa and General Cable, to determine their experience.

(108) I believe we at some point in time during 1968, we also inquired of Pechiney on their appraisal of this equipment.

Q. I am just interested, Mr. Clough, in the investigation that you made during this period of time when you were considering the Essex offer, when you were negotiating about a sale over a machine.

Now, did these investigations take place in or about June of 1968, while you were negotiating with Essex? A. I can't be sure that they took place during this period of time.

Q. Let me show you, Mr. Clough, a copy of a memorandum dated June 19, 1968, from Mr. Loyer to you, and I ask you if this is the investigation that you referred to a minute ago by the Intalco people as to whether or not the Properzi would live up to its specifications? A. This is at least one of the items.

Q. Now, Mr. Clough, do you know whether or not you, after receiving this memorandum, you drew any conclusion as to whether the Properzi would live up to its specifications? A. Whether it was immediately after that, I am not certain, but our overall conclusion, after all of our investigations and inquiries, was that the machine would run (108a) satisfactorily, and produce a quantity of wire, of rod.

(109) Q. Do you know what the specification of the Properzi cost, Mr. Clough, insofar as it's operating rate was concerned?

Mr. Topkis: Specification from whom? Is that the manufacturers or agreed between the parties.

Mr. Hamilton: Either or both.

The Witness: On my understanding of the manufact[illegible]'s specification indicated 14,000 pounds per

hour. The amount agreed between the parties for at least one purpose was 12,600 pounds per hour.

Q. Let me read into the record here, your Honor, paragraph number 7 from the facts not in dispute which reads as follows:

"7. The Model 8 Properzi was warranted by Continuus," Continuus being the manufacturer in Italy, "to produce 14,000 pounds of aluminum rod per hour."

Was that your understanding, Mr. Clough, of the specified operating rate for the Properzi? A. Yes, sir.

Q. Mr. Clough, I would like to have you look at the record that you got from Intalco, dated June, on or after June 19, 1968, which is in evidence as Defendant's Exhibit D32 and I would like to have you read the paragraph that begins under "Metal Cooling Capacity," please.

(110) You can read it out loud. A. "Beyond the 11,000 pounds per hour of E. C. Metal, we have not developed the practice which will produce a sound casting. Casting beyond this rate, 20.3 rpm casting wheel produces cracking caused by cooling stresses.

Q. In laymen's terms, Mr. Clough, what does that mean to you? A. That means without modification of the casting wheel, the rated capacity would not be met.

Q. Now, look at the second paragraph of this report dated June 13, 1968, Mr. Clough, under the heading "Metal Transfer System" and would you read aloud the first sentence in that item?

* * *

Q. Now, would you read that first sentence, Mr. Clough, (111) under Metal Transfer System. A. The pouring spout probably remains to be resolved.

Q. Is the pour spout, Mr. Clough, is that an important part of the machine? A. Yes.

Q. Can you operate it without the pouring spout? A. No.

Q. And yet, this says the pouring spout problem remains to be resolved as of June 18, isn't that a fact, Mr. Clough? A. In order to be complete, you have to read the alternative solutions which were proposed and we know from experience that the other machines were operating with different pouring spouts which in fact we have recommended as the record shows a number of times.

Q. I will get to that, Mr. Clough, or your attorney will bring out whatever he thinks is relevant.

Now, Mr. Clough, I would like to have you look at page 2 of the machine and read for me under the heading "Reduction Mill" the paragraph that begins "The Art." A. "The art of emulsion control will remain a development area. We have no satisfactory method for definitive criteria of a good emulsion. This development area will require equipment and maintenance. AMAX must be informed (112) of the cost potential. Mobile has recommended installation of suitable storage and handling facilities for the soluble oils required. This recommendation should be adopted."

Q. The emulsion control will remain a development area. What does that mean to you, Mr. Clough? A. That means some more work has to be done to make it completely satisfactory.

Q. Was this report a factor, Mr. Clough, in your decision not to accept Essex's offer of a million, four? A. Not the controlling factor.

Q. But it was a factor, wasn't it? A. Everything was a factor.

Q. And you were very concerned that that machine would not live up to specifications, weren't you, Mr. Clough? A. I was not very concerned at all.

Q. Well, your Intalco people were very concerned, weren't they, Mr. Clough? A. Well, in the normal course

they will be very conservative in their approach because they are the ones that are going to have to do it.

Q. Now, Mr. Clough, at this time you also contacted Nichols, didn't you, in order to see if they could make this machine operate, and you got back a telex dated May 16 which is Exhibit D-20, do you remember that telex? (113) Yes, sir.

Q. Do you remember what rate Nichols said that they —thought they could get the machine to operate at? Let me refresh your recollection, Mr. Clough. It is spelled right out in Exhibit D20. I believe they offered to get it up to 12,60[illegible]id they not? A. The reason they used that figure was because this was the figure which the parties had agreed to as the level at which the machine would be turned over to AMAX for operation.

Q. How do you know that that's the reason— A. Because we discussed it.

Q. —Morris put that number in there? A. That was our point of discussion. We asked him what was necessary in order to get the machine up to that level.

Q. But the guaranteed rate of production was 14,000 pounds, wasn't it, Mr. Clough? A. Yes, sir. But 12,000 would have been satisfactory to us regardless of the guarantee.

Q. You will notice also this says "12,600 pounds per hour while operating." What do you suppose that "while operating" qualification means? A. If it is not operating, it certainly is not going (114) to be producing 12,600 pounds.

Q. I guess not. I guess it can't operate if the spout won't work, will it, Mr. Clough? A. Every component would have to work in order to have it producing.

Q. But in mid-June you didn't have a spout that would function, did you? A. When you say you, you make it sound as if it is an AMAX failure, where in fact it was not.

The running-in of the machine and the necessary—and the modifications necessary, was the responsibility of Essex.

Q. I am not trying to put fault, Mr. Clough, as to who failed here. I am trying to find out whether the machine, regardless of who was at fault, would live up to its specifications and in June of 1968 your Int-Ico people said the pouring spout problem remains to be solved. Isn't that right? A. That's correct.

(115) The Court: When was this machine installed again?

Mr. Hamilton: Late fall of 1967, your Honor; it was installed, I think, by October 24th or something like that of 1967.

The Court: And this agreement or understanding with respect to 12,800—

The Witness: 600, Judge.

The Court: As opposed to 14 is not quite clear. Is that an agreement that the machine would work at that level?

Mr. Hamilton: There is no such agreement, your Honor.

The Court: What is that that you keep—what is that that you keep referring to?

Mr. Hamilton: Your Honor, the contract provided that certain things happened when the machine was "operating normally" and the parties went into some negotiations as to what was meant by "operating normally," and that is what Mr. Topkis read to you out of our stipulated facts this morning, that in the course of trying to define what is operating normally, they essentially agreed that a rate of that area, in that area is "operating normally" for the purpose of these contracts because at (116) that point, AMAX took on certain additional obligations.

The Court: Well, was there ever a time when it did operate at twelve eight or twelve six?

Mr. Hamilton: I don't believe it did, your Honor, not for any sustained period of time. It might for two minutes, but it didn't operate at that rate for any sustained period of time is my understanding, but we will have to explore that with the witnesses who operated it.

The Court: There is no agreement as to that?

Mr. Hamilton: No, ma'am.

Mr. Topkis: There is agreement, your Honor. We don't suggest it operated for any protracted period while at Intalco at a rate of 12,600 pounds. If it had, it would have been our obligation to take it over and run it.

You see, the contract provides that when the machine is operating normally, then it becomes AMAX' responsibility and we agreed that it would be regarded as operating normally when it hit 12,600 pounds per hour. It didn't. It didn't while it was on our premises.

The Court: Well, it's clearer to me now. I wasn't sure whether it had and, therefore, you agreed that's the way it should operate or what.

(117) Q. Now, Mr. Clough, I think this morning when Mr. Topkis was examining you about this offer from Nichols of May 16th, is it, 1968, reflected in that Telex, I think you indicated that you didn't accept that offer because the machine belonged to Essex and you couldn't run their machine, is that right? A. That's correct.

Q. Weren't you, in fact, however, negotiating to buy the machine from Essex, and isn't that precisely why you wanted that offer? A. We were interested in Nichol's opinion, as I have previously stated, and what type of tech-

nical assistance and back-up we could get from Nichols if we were to buy the machine or if we were to agree with Essex that we would take over the responsibility of starting the machine, which is one of the alternatives which we felt was possible, and we had no other experience with Properzi machines, and had we felt we needed technical assistance from someone, and so obviously we sought it from Nichols or sought their advice.

Q. Did the report from the Intalco people about the equipment failures dated June 18, 1968, which is part of Exhibit D32, did that have anything to do with your decision not to buy the machine and make use of the (118) Nichols offer of assistance? A. No, it did not.

Q. Nothing to do with it at all? A. Nothing to do with it.

Q. Isn't it a fact, Mr. Clough, that you turned down the Nichols offer because your own Intalco people in June of 1968 told you that the machine wouldn't work? A. No, sir.

Q. Now, Mr. Clough, I want to move to that meeting with Mr. Dunstan and Mr. Seifert on June 25, 1968 here in New York at the AMAX offices.

Mr. Topkis: You misspoke yourself. It's July.

Q. I am sorry. July 25, 1968, at the AMAX offices here in New York.

At that time, Mr. Clough, had you basically agreed that Essex could remove the Properzi or was that still a dispute that was outstanding? A. We never agreed that they could remove the Properzi.

Q. Well, in your last letter to Essex, Mr. Clough, the one of May 29, 1968, you specifically said that you do not have a right to remove the Properzi, isn't that (119) correct, and isn't it a fact that Essex did remove the Properzi? A. Yes.

Q. Isn't it a fact that you could have kept them out, had you wanted to? A. I had previously said that we were advised by counsel not to interfere and could have kept them out—I am not sure what you mean exactly—legally or illegally?

Q. Well, you have been at the plant out at Intalco, haven't you, Mr. Clough? A. Yes.

Q. And it's owned not by Essex, isn't that correct? A. Yes, sir.

Q. It's got a fence around it, doesn't it? A. Yes.

Q. You can't get in the door without permission, isn't that correct? A. Yes, sir.

Q. And you allowed Essex to come in, not just a fellow walk in, but come in with a whole crew and remove a piece of equipment, isn't that correct?

Isn't that correct, Mr. Clough? A. Yes, sir.

Q. And wasn't that equipment the subject of two (120) contracts between Essex and AMAX? A. Yes, sir.

Q. Didn't those two contracts give Essex the right to remove that equipment only under two conditions? A. It's —there is one of those two conditions which you cited—I believe there are two conditions that you were citing this morning, and one of those two, in my mind, is not the basis of a right to remove. I would have to depend upon your legal expertise to tell me, but in my own layman mind, it's not a right of Essex.

Q. Well, Mr. Clough, let me read you the last sentence of Paragraph 3 of the lease agreement which says as follows: "Should the Properzi fail to live up to specifications, Essex promptly will fix or remove the Properzi and restore the site."

You were well aware that that sentence was in there, weren't you? A. My interpretation of that sentence is if those conditions existed, AMAX had the right to insist that Essex take those actions.

Q. That isn't what it says, is it, Mr. Clough?

Mr. Topkis: I think, Counsel, with all respect, is arguing with the witness.

(121) The Court: Yes.

Mr. Hamilton: Withdrawn.

Q. Did the question that was raised in the memorandum from Intalco people, Exhibit D32, concerning the ability of the Properzi to live up to its specifications, did that information affect your decision to allow Essex to go into that plant and remove the machine? A. It didn't affect my views on the subject.

(122) Q. Were you the one that made the decision as to whether or not Essex would be allowed to go into the plant and remove the machine? A. I am certain that it was Furbacher's decision ultimately.

Q. Let me ask you this, Mr. Clough, at the time of the meeting on July 25, 1968, in your own mind was there a controversy as to whether Essex's removal had been legitimate or proper? A. Yes, sir.

Q. Did you articulate that to Mr. Dunstan? A. At that meeting? A. No, sir.

Q. Did you say anything about it at all? A. As I have testified before, it's quite possible that some reference, casual reference was made to it at that meeting, but it was not a subject of discussion.

Q. Do you recall whether possible claims under the two contracts, the lease agreement and the supply contract, were discussed at that meeting? A. No.

Q. You don't recall? A. I don't recall any discussion of them at that (123) meeting.

Q. Is it possible that it did occur, Mr. Clough, and you have forgotten? A. Impossible.

Q. I'm sorry. I missed the answer. A. Impossible.

Q. What about possible sales of billet by American Metal Climax to Essex in the future? Did you discuss that at the meeting on July 25, 1968? A. We did discuss the possible billet sales at some time or times, in fact, during that general period. I don't recall specifically that they were discussed at that meeting.

Q. But is it fair to say here, Mr. Clough, that they might have been discussed and you have forgotten? A. If there was any discussion, it would have been quite brief, because it does not stand out in any—in my mind.

Q. But it could have occurred? A. Yes, it could have occurred.

Q. Do you recall Mr. Dunstan saying, in words or substance, Mr. Clough, "Herb, let's wipe the slate clean; let's get this all behind us"? A. I don't recall his saying anything like that.

(124) Q. Do you recall Mr. Seifert saying anything, words to that effect, "Let's wipe the slate clean; let's get this whole sorry episode behind us"? A. No.

Q. Would you recall a reference of that general substance, if it occurred, do you think? A. I would recall, if there was any implication that we were discussing the whole spectrum, including the breach of these contracts, if there was any implication that that was the subject under discussion, I would certainly have recalled it.

Q. And there was no such implication; you are quite sure? A. I am quite sure.

Q. Was that the first time you had ever met Mr. Seifert? A. I don't recall. I know I didn't know him well. It would have been only a rare occasion previously that I had ever met him, I believe.

Q. You didn't know him well at all? A. I didn't know him well.

Q. Did he say anything to speak of at that meeting? A. He didn't say much at all.

Mr. Dunstan introduced him and said that he (125) was accompanying him for the purpose of going to another meeting, and did I have any objection if he sat in, and I had no objection, so Mr. Seifert did sit there. My recollection is that he didn't participate in the meeting.

Q. Well, if you didn't know him at all, Mr. Clough, how could you testify on your direct examination that Mr. Seifert was such a bright young fellow that you knew he would follow up whether or not this check had been cashed once he got back to Essex?

Didn't you say that on your direct examination? A. Yes.

Q. You didn't know him at all, did you? A. Well, I knew him at that meeting.

Q. So far as you know, you never even met him before? A. I don't recall. I don't recall meeting him.

Q. So far as you know, he might have been hit by a car and been in a hospital for the next year; isn't that right? A. I didn't know whether he was hit by a car or not.

Q. Now, Mr. Clough, I'd like to show you Exhibit D46, which is your memorandum of July 29, 1968, which is in evidence already. I am sure you recall that memorandum. (126) A. Yes.

Q. Now, is it your testimony, Mr. Clough, that you just circulated this memorandum out of the blue, without any anticipation at all from that meeting that Essex thought that the settlement was for a full settlement of all existing disputes?

The Court: Let me hear that question.

(Record read.)

A. Yes, sir, I had no—as I testified this morning, I was wary of their trying to pull something like this.

Q. Why were you wary, Mr. Clough? Have you ever done this before, before or after this, following a settle-

ment meeting, send out a memo like this, "Watch out for a check; it may have a restrictive endorsement on it"? A. Under similar circumstances I would.

Q. But, have you, Mr. Clough? Isn't this a unique experience in your life? A. Our dealings in this particular series of transactions is a unique experience in my life.

Q. And you did this, not because of any implication that Dunstan or Seifert made at this meeting, that they were going to send you a check in full settlement? (127) A. Correct.

Q. Absolutely not; you are sure? A. Yes, sir.

Q. Why was it, Mr. Clough, you said you circulated this memorandum, Exhibit D46? A. The one you just showed me?

Q. Yes, sir. A. Because I was wary of the possibility that Essex might place restrictive endorsement on this check or otherwise qualify it in an attempt to get out from under any claim we might have on the breach or anything else.

Q. Why did you think Essex would do that, if it hadn't been mentioned, even implied, at the meeting? A. We had had—I had had some rather difficult experiences with Essex during the period of the previous three months or so, and as I recited this morning, they hadn't paid their bills for even the hot metal that had been used. They had breached their contracts which we have been discussing here. They had asked what I considered to be unreasonable terms when we attempted to reach some compromise agreement on continuing the contracts. It appeared to me that we had to be very wary in dealing with them.

(128) Q. And after sending this memo, then you received the letter from Mr. Seifert dated July 26, 1969, Exhibit P21, isn't that right, Mr. Clough? A. Yes.

Q. And that letter says, "Pursuant to our agreement reached Thursday, July 25, 1968, enclosed please find Essex check for $424,898.95 in full settlement of all disputes."

Do you remember receiving that letter? A. Yes.

Q. The language is very similar to what you were warning people about in the last paragraph of your memorandum of July 29th, Exhibit D46, isn't it? A. The word "final settlement" is—I don't know what other terminology that we might be concerned with.

(129) Q. You must have been very upset when you received this letter of July 26, 1968, Mr. Clough, were you? A. I was not very happy.

Q. You must have called Mr. Seifert right away and complained about the way he had characterized your agreement. Didn't you do that? A. No, the first thing I did was to consult our house counsel.

Q. Well, then, you called Mr. Seifert and explained about the letter, is that what happened? A. No. Not to my knowledge.

Q. Why not? Why didn't you call Mr. Seifert and say, "Mr. Seifert, you sent me a letter which says, 'pursuant to our agreement,' and we didn't reach any such agreement." A. I discussed the matter with our house counsel and he advised me to make no response until David Farley, who is another counsel, was able to confer with us on the subject.

Q. Did you discuss it with Mr. Furbacher? A. I'm sure I did.

Q. Do you have any recollection of the substance of that discussion with Mr. Furbacher? A. I don't have any specific recollection.

Q. Let me see if I can refresh it, Mr. Clough.

(130) This is the testimony, Mr. Clough, that Mr. Furbacher gave to me in a deposition in this case.

Starting on page 140. This is questions to Mr. Furbacher.

"Question. With whom did you have discussions concerning that check and the endorsements on it?

Herbert C. Clough, for Plaintiff—Cross

"Answer. That statement on the check naturally gave rise to a number of questions. I am sure that I discussed them with Mr. Clough, and I am sure I discussed it with our attorneys."

Skipping a few questions:

"Did you give Mr. Clough any instructions as to what he was to do with the check?

"Answer. I guess really the instruction came from our Law Department.

"Question. Did you, regardless of the source of the instruction, did you give Mr. Clough any instructions as to what he was to do with the check?

"Answer. I don't remember."

Skipping a little:

"Question. Do you remember whether you told Clough to deposit that check?

"Answer. I don't think I said specifically don't deposit that check.

(131) "Question. Do you recall that subject being discussed or considered with Mr. Clough?

"Answer. I did.

"Question. And what conclusion did you come to in those considerations?

"Answer. We agreed not to deposit the check.

"Question. And was that conclusion based upon anything other than advice from counsel?

"Answer. Well, we are very practical people, and as far as the practical people approach is, we were also selling some materials to Essex, both in our copper division and in our aluminum division.

"Question. How did that enter into your decision not to deposit the check?

"Answer. We wanted to continue doing business with them for a while, as long as we could.

"Question. Did you consider the possibility of informing Essex that you were not going to deposit that check?

"Answer. I don't remember.

"Question. You don't recall the specific subject coming up?

"Answer. No.

"Question. Were you aware of the fact that at this (132) time Essex was negotiating to cancel an agreement with the second Properzi that it had with Nichols?

"Answer. I had heard from Nichols early in our negotiations that they had a second one on order. I didn't know the status of it.

"Question. Following the decision, Mr. Furbacher, not to deposit the check, what is the next occurrence which you recall in connection with that check?

"Answer. I believe we held on to it until Mr. Topkis suggested we send it back some time later, quite a while later.

"Question. Do you recall Mr. Clough raising the subject with you of what he should do with the check over the next month or so?

"Answer. The next month or what?

"Question. The next month or so, following the July meeting with Mr. Dunstan and the July receipt of the check.

"Answer. I recall talking about it occasionally, but I don't remember the restriction of a month or so.

"Question. Do you recall ever discussing with him during 1968 the possibility of informing Essex that you were holding that check without depositing it?

"Answer. I don't recall.

(133) "Question. Do you recall ever discussing that subject with anyone in AMAX in any time in 1968?

"Mr. Topkis: The subject of whether or not to inform Essex?

"Question. To inform Essex that the check was being held by AMAX and not deposited.

"Answer. I don't remember.

"Question. Did you have any discussions concerning your relationship with Essex during the period that you were holding that check?

"Answer. Yes.

"Question. Will you tell me with whom you had those discussions?

"Answer. With Clough.

"Question. Anyone else?

"Answer. I don't know. I don't remember.

"Question. Will you tell me the substance of your discussions with Mr. Clough, unless you have already done so.

"Answer. I think I have already done so. The substance of my discussions were that we were still selling them some materials and we ought to take no precipitous action in connection with the check problem."

Now, Mr. Clough, does that refresh your (134) recollection of those discussions with Mr. Furbacher? A. Yes, I recall some discussions. He has brought out the subject of continuing relations with Essex, but I, for my part, I considered those to be of little or no importance in the overall matter concerning our position under the cancellation of the lease and purchase and sale agreement.

I have pointed out that the amounts involved in these commercial transactions that were continuing were practically de minimis in either the aluminum or the copper business of ours, that in the case of our sales of aluminum billet to Essex during that period, they were in fact being made at prices favorable to Essex; in fact, as you will note on that sheet that I gave you this morning, the prices for

the same material to other customers in the same geographic area during that period of time, were more than we were getting from Essex, so that this was not a lush piece of business we had which made it so highly desirable that we not interrupt it.

The Court: Excuse me, at this time, we are going to take a 15 minute recess.

(Recess.)

(135) Q. Now, Mr. Clough, let me show you a copy of Plaintiff's Exhibit P21 in evidence, which is the letter of July 26, 1968 that you received from Mr. Seifert.

Is this your handwriting down at the bottom of that document, Mr. Clough? A. Yes. It is.

Q. Who is Mr. Kalil? A. Mr. Kalil is a member of the AMAX law department.

Q. And he was the initial person that you talked to about the check, is that right? A. Yes.

Q. I see the next notation is that he reviewed this with Mr. Farley on August 23, 1968; is that right? A. Yes.

Q. And in connection with your conversations with Mr. Farley on August 23, 1968, did you consider the possibility of picking up the telephone and calling Essex? A. And-

Q. And telling them that you were not going to cash the check, but were holding it? A. In retrospect, I can't imagine what I would have said to them.

(136) Q. Did you or did you not, Mr. Clough? A. I did not call.

Q. Did you continue to review, Mr. Clough, during the remainder of 1968, what action you should take, if any, with respect to this check? A. Yes.

Q. As a matter of fact, it came up on a rather constant basis, didn't it? A. It wasn't an everyday thing but it was reviewed probably several times.

Q. And in those reviews, Mr. Clough, was one question that you reviewed whether or not you should telephone Essex and say that you were holding that check pending advice from your counsel? A. I'm certain that the matter was discussed.

Q. But you didn't call Essex, is that right? A. I don't think so. I don't have any recollection.

The Court: You referred to a P21, did you, Mr. Hamilton?

Mr. Hamilton: Yes, your Honor. P21—

The Court: May I see what that is again?

Mr. Hamilton: Yes, ma'am.

The Court: Thank you.

(137) Q. Now, finally, Mr. Clough, you did return the check on or about January 2, 1969, as reflected in Exhibit—Plaintiff's Exhibit D51, isn't that correct? A. Yes, that's correct.

Q. Can you tell from that exhibit, Mr. Clough, when it was received by Essex? A. The Xerox of the receipt attached here shows 1/6/69.

Q. January 6, 1969? A. Yes.

Q. To the best of your knowledge, Mr. Clough, was there any communication with Essex between the receipt of the check and January 6, 1969, with respect to what AMAX was doing with that check? A. I have no knowledge.

Q. You knew during this period, did you not, Mr. Clough, that Essex was negotiating with both Nichols and Properzi concerning the dispute that they had over the Properzi that had been at Intalco? A. I don't know at what period I had heard of any negotiations. I don't know at what time I had heard that they were negotiating a decision of the order for the second Properzi. At some

time knowledge came to me of that, and I don't recall when it was or via what (138) medium?

Q. Well, it was well before the end of 1968, was it not, Mr. Clough? A. I would say so.

Q. And it was sometime while you were holding the check? A. It could have been before.

Q. It could have been even before? A. I am not positive.

Q. Now, Mr. Clough, you testified, I think, that during the last five months of 1968, American Metal Climax sold some 3,670,000 pounds of billet to Essex, isn't that right? A. Yes, sir.

Q. And that price is something above $900,000, between 900 and a million, isn't that right? A. Yes.

Q. And that was pretty valuable business to American Metal Climax, wasn't it? A. As I previously testified, this was a common market product being sold in fact at a lesser price than we were averaging from other customers of that same product in that same geographic area.

Q. But this is still the business that Mr. (139) Furbacher referred to as what he wanted to protect when he didn't return the check, isn't that right? A. I take it that this is what he had in mind.

Q. And what was the business that Essex did with AMAX on billet after you, in fact, did return the check during the next four months? A. To the best of my knowledge, they bought nothing.

Q. So Mr. Furbacher was right, wasn't he? A. There is a difference of opinion between me and Mr. Furbacher as to the importance and impact.

Q. This billet that you were selling to Essex, you say you could have sold that to many other people is that right? A. Sure.

Q. Why didn't you do it? A. Essex was a customer and we did business with them. As long as they paid their

bills and took the billet and paid the price, why, we went ahead and did business with them.

Q. Mr. Clough, you told me that on July 25, 1968 you had a miserable history with Essex. They hadn't been paying their bills. As a result, on July 29th, you anticipated this restrictive endorsement.

(140) If they were so unpleasant to do business with, Mr. Clough, and if you could sell that billet to anybody else around in Essex' area, why didn't you do it? A. They paid their billet bills. The record will show.

Q. Now, Mr. Clough, I want to look at these calculations on the blackboard with you for a minute or two. I think you have testified that they are based upon a 17 cent fixed cost figure per the costs of Intalco, isn't that right? A. That's total cost, Mr. Hamilton.

Q. But you personally know nothing about how that 17.1 cent figure was calculated, is that right?

Mr. Topkis: 17 cents, not 17.1.

Mr. Hamilton: I beg your pardon.

Q. 17. A. I have seen the memorandum which details the 17 cents and shows the components of making up that 17.

Q. You personally didn't make that calculation, is that correct? A. I did not.

Q. And if it's wrong, your profits are substantially different, is that right? (141) A. If it's substantially wrong, then the profits are substantially wrong.

Q. Isn't the same thing true about the cost of ingots which is 16 cents in the figures? A. 16.2. To the extent any of those figures are wrong, it alters the final figure.

Q. This contract that you had with Okonite, Mr. Clough, isn't it a fact that you could have complied with that contract by buying the Properzi from Essex and making the rods yourself? A. Yes.

Q. Why didn't you do that? A. Because the—we felt at that time that without the Essex business as a base load, that merely running the Properzi to fulfill the Okonite contract was not particularly attractive.

Q. Okonite contract, Mr. Clough, was even for a bigger volume than Essex', wasn't it? A. Right.

Q. Wasn't the reason you said you didn't want it was because you wanted one good, steady customer to make it worthwhile? A. The composite of the two being a total of 226,000,000 pounds over that period of time made the (142) economics attractive to us.

Q. Whereas one did not? A. One did not.

Q. And that's why you didn't buy that Properzi, is that correct? A. You say "that Properzi"—

Q. The Properzi at Intalco. A. Specifically the one owned by—

Q. Yes. A. That is probably the principal reason.

Q. Let me ask you this, Mr. Clough. Had you purchased that Properzi from Mr. Dunstan for a million four, his asking price, am I correct in interpreting this chart to show—to indicate that by making that investment of a million four, you then could have made this profit of 9 million 624 and still have a Properzi in your factory; is that right? A. We would not have made that level of profit, Mr. Hamilton, running only the rod for Okonite, because the costs per pound would be higher than 17 cents were we running only the Okonite contract.

Q. Was it your feeling that the only conceivable consumers for the output of the Properzi were Essex and Okonite? (143) A. They were not the only conceivable consumers.

Q. So, if you would have had as a basis the Okonite contract, there was no reason why you couldn't have gotten contracts with other possible consumers; is that correct? A. The number of large No. 8 Properzi machines which

were being installed in the United States, being installed or on order in the United States during that period had grown to a number which became rather alarming so far as we were concerned. It appeared to us as though there was going to be a great overcapacity of aluminum rod in the United States within a short period of time and, in fact, I believe the record will show that that's what happened.

Q. What, in fact, happened with respect to your Okonite contract that you had signed up, did you deliver the rod to the Okonite people? A. We attempted to deliver the rod to Okonite after the shutdown of the Properzi at—late in 1968. We attempted to deliver on our contract by buying from other producers, but after attempts to do so satisfactorily over a period of months, it became evident to us and to Okonite that we could not satisfactorily do so by purchasing the rod from someone else. We didn't have (144) control over the quality. We didn't have control over the delivery schedule, et cetera, so that by mutual agreement we ultimately cancelled the Okonite contract.

But you would have had control over the quality and you would have had control over the operation had you purchased that Properzi from Essex in June of 1968? A. Yes, sir.

Mr. Hamilton: Nothing else, your Honor, from Mr. Clough.

Mr. Topkis: Just a few questions, if I may, your Honor.

First, your Honor, just in the interest of preservation of these calculations for whatever benefit it may be to the Court, we have prepared a copy of what's written on the blackboard. Might I have it marked and filed as an exhibit.

The Court: Yes.

(Plaintiff's Exhibit No. P102 marked for identification.)

Mr. Topkis: Does your Honor wish it in evidence or just marked for identification?

The Court: Why don't we receive it?

(Plaintiff's Exhibit No. P102 received in (145) evidence.)

The Court: There is no objection, Mr. Hamilton?

Mr. Hamilton: No objection, your Honor.

Redirect examination by Mr. Topkis:

Q. Mr. Clough, my friend, Mr. Hamilton, was just asking you some questions about the Okonite contract and whether you could have gotten along just with Okonite, if you had bought the Properzi from Essex.

You observe that the Okonite contract started out at a 9 million pound level in 1968 and went to 20 million only in 1969. A. Right.

Q. Did those facts influence your judgment that it would be uneconomical for you to buy the machine and expect to operate it just on the Okonite contract? A. It wouldn't make any sense at all at those particular levels of output. The machine is a high production machine and the investment per pound is rather substantial, and unless you can get an outlet for a substantial volume, you shouldn't have a No. 8 machine at any rate.

(146) Q. Mr. Clough, following your meeting on July 25, 1968 with Mr. Dunstan and Mr. Seifert in your office in New York, did you dictate a memorandum to your files summarizing what happened at that meeting? A. Not that I recall.

Q. Let me show you Plaintiff's Exhibit 101 for identification and ask you whether it refreshes your recollection. A. Oh, yes.

Q. Can you tell us what that is, please, sir? A. Yes, this is a memorandum to the files dated July 26th, the day after

the meeting summarizing the settlement made with Mr. Dunstan.

Mr. Topkis: I offer P101 in evidence, your Honor.

Mr. Hamilton: No objection.

(Plaintiff's Exhibit No. P101 received in evidence.)

The Court: Does this memorandum, Plaintiff's P101, relate to the same meeting and the same transaction as involved in Plaintiff's 19, P19, P21, P12, all Plaintiff's exhibits?

The Witness: Yes, it does, your Honor. You know that this first figure on P19, total AMAX billing is (147) 660,678 and here it's referred to as 661,000.

The Court: Yes, I know the figures are the same but the items are not the same, are they?

The Witness: There is a reconcilement. Included in the 661,000 was an amount of 67,000 Mr. Dunstan had referred to here as being the fixed charges which needed to be resolved. So that then in this—in P101, I said that he will pay the entire amount except for $67,000 indicated as fixed costs and in respect to these fixed costs or to the fixed costs, he will pay $40,000.

The Court: Well, on P19, his notation referred to purchases of aluminum.

The Witness: Yes.

The Court: Whereas your memo refers only to fixed costs.

The Witness: The purchases of aluminum of 661 include fixed costs as well as variable costs and other components because the general subject or the

general matter was purchases of aluminum, but those purchases contained various cost components, including fixed costs which he was disputing.

The Court: All right. I thought they were separate transactions.

The Witness: I could draw a reconcilement to (148) identify these various references, if you like.

Q. Is the reconcilement very simple, Mr. Clough? You start with 660 and knock off 40, is that right? Deduct what he paid you and you wind up with 424? A. Yes.

I don't know which ones of these I can mark on, Mr. Topkis.

Q. Let me give you a pad.

Mr. Topkis: Like so many accountants, your Honor, Mr. Clough figures best with a pencil.

A. The total amount billed to Essex on account of all of the aluminum was 661,000, that's referred to here as total billing on P19 and also here in P101.

They had paid—I am using round thousands.

The Court: That's all right.

A. They had paid 208,000, which is agreed upon. That left to be determined 453,000 which included $67,000 worth of disputed charges.

The Court: I see.

The Witness: That's referred to in both documents.

Of that 67,000, we finally settled for 39 or 40 thousand, depending on what number you want to use, and that is consistent in both cases and if you take that, (149) as he has done here, and add the two together, you come up with the amount of the check that he sent and has been discussed.

Herbert C. Clough, for Plaintiff—Redirect

Q. Mr. Clough, you remember that Mr. Briggs' memo to you said that one of the questions that you have to decide on when you decide whether you want a machine is (149a) to find out whether it's functionally sound? A. Yes.

(150) Q. And you testified under examination from my friend, Mr. Hamilton, that in trying to find out whether the machine was functionally sound and trying to determine that question, you talked with other owners of the number 8 Properzi? A. Yes.

Q. With whom did you talk, sir? A. I talked with representatives of Alcoa and of General Cable.

Q. And what did they report to you? A. They reported that in their opinion the machine was perfectly capable of the capacity that was specified, particularly General Cable, I recall because they told me that it was operating at an annual rate of over a hundred million pounds.

Q. Now, you remember that Mr. Hamilton asked you also whether there wasn't some problem with the spout and whether Intalco didn't report that to you, do you remember that? A. Yes.

Q. And he read to you this language from exhibit—Defendant's Exhibit D-32. The pouring spout problem remains to be resolved.

Do you remember his reading that to you? (151) A. Yes, sir.

Q. He didn't read you the following sentence, and I will now. It reads: It is expected, based on the experience of others, that oxidized titanium spouts will provide a solution such that previously mentioned one shift capacity will be maintained.

When you read this document back in 1968, if you did, or when the Intalco report was called to your attention, you thought the spout problem was on its way to being solved, did you not? A. Yes, sir.

Q. Mr. Hamilton asked you whether, when you received the check with the restrictive indorsement from Mr. Seifert, you called Mr. Seifert, and you said, I think that you didn't have any recollection of having called him, is that right? A. Correct.

Q. Could you tell the Court, please, why didn't you call Mr. Seifert? A. I don't know what I would have said to him at that point and I felt that we had been had again.

Mr. Topkis: Thank you, Mr. Clough. I have no further redirect, your Honor.

Mr. Hamilton: Just a question or two, your Honor, on that.

(152) *Recross examination by Mr. Hamilton*:

Q. Mr. Clough, on these conversations you had with people from Alcoa and General Cable, did you have those personally? A. With the case of the man from General Cable, I did have a conversation personally. I do not recall personally discussing the Alcoa experience with representatives.

Q. Was the man at General Cable affiliated with the Properzi that was in operation there? A. He was the vice president of the company, who was a European, who had extensive experience with Properzi and he had general charge of the rod making facility.

Q. He had general charge of General Cable's rod making facility, is that right? A. Yes.

Q. Did you bother to ask him about the modifications that General Cable had made in their Properzi in order to have it running? A. I know I asked him and I asked if we could go and look, but he respectfully declined.

Q. Did he say why he was declining? A. Yes.

Q. Why? (153) A. He much preferred that we didn't solve the problem and I am certain he indicated a strong

preference for our not getting into the manufacture of rod in competition with him.

Q. He wouldn't even let you look at their Properzi, its physical condition? A. He would not.

Q. Did you probe at all as to whether they made any changes in the mold? A. I would not be able to state categorically what all that I asked him. I asked whatever I thought would be helpful. I got no helpful response, and so I gave up.

Q. Do you remember whether or not you discussed with him how the secondary cooling system that was specified on the Model 8 Properzi was working out there at General Cable? A. I don't remember.

Q. Would you have known enough about the operation of a Properzi to ask him those kinds of questions? A. I would not have—I would not know enough about a Properzi to have been the logical man to have delved into this. If I could have gotten access, I would have then had the access made by some of our more knowledgeable people.

Q. Did you conclude, Mr. Clough, from the secrecy that surrounded their operation that they made some changes (154) that they didn't want to reveal to anybody else? A. That would have been a logical conclusion.

Q. Now, Mr. Clough, I think her Honor asked you this morning about the definition of running-in, do you remember that? A. Yes, sir.

Q. Would you give it to me again, what you think is meant by running in of Properzi? A. Running-in is getting the bugs out, getting things—the crew trained, whatever shortfalls may have occurred, getting them overcome and getting the machine operating up to a reasonable level of capacity.

Q. Is there any difference, Mr. Clough, between runnin-in and operating normally? A. Running-in is a process to get to operating normally.

Q. But once you have completed the running-in process, you are then operating normally, is that your testimony? A. I would say running-in is not completed until you are operating normally.

Mr. Topkis: Nothing else, your Honor. Thank you.

The Court: Is there anything further?

Mr. Topkis: I don't think so. Is there anything (155) you want to add, Mr. Clough?

The Witness: There is one thing.

I think there is possibly some confusion as to the makeup of these, the $661,000, what it could have comprised and I believe, Mr. Topkis, that there is an exhibit which tabulates the various billings made to Essex and broken down into some of the components together with a sample of invoices attached to it and I think that might be helpful for your Honor to refer to as it, I think, is a little clearer. It is a different type of presentation.

Mr. Topkis: Rather that take time to look for it now, your Honor, we can offer it in the morning. There is no need to hold up your matters while we do that.

The Court: All right, we will recess until 10 o'clock tomorrow morning.

(Adjourned to 10 a.m. January 18, 1974.)

(158)

January 18, 1974
10:10 a.m.

(Trial resumed.)

The Court: Mr. Topkis, you may proceed.

Mr. Topkis: If your Honor please, our next witness is in the box, but before we get to him, your Honor, as we were closing last night your Honor expressed some interest in the question of the back up on those billings that we sent to Essex, and you recall Mr. Clough said that there was an exhibit that he remembered that had all of the details.

The Court: Well, let me say this, I was just confused momentarily. I thought there were two different transactions, because of the handwritten item on one exhibit, but it turned out that it was the same transaction. That was really my concern.

Mr. Topkis: Well, in the interest of a full record, your Honor, since he did refer to the exhibit and since we have found it, and Mr. Hamilton has a copy, we have had it marked as Plaintiff's Exhibit P-103 for identification.

I would like to offer it in evidence.

* * *

(159) And now the plaintiff calls Mr. Thorley D. Briggs.

THORLEY D. BRIGGS, called as a witness by the plaintiff, having been first duly sworn by the Clerk of the Court, testified as follows:

Direct examination by Mr. Topkis:

Q. Mr. Briggs, by whom are you employed? A. I am paid by American Metal Climax. I am employed by Intalco Aluminum Corporation.

Q. And what position do you hold, sir? A. Vice President, Intalco Aluminum Corp.

Q. Do you have any particular area of responsibility today? A. Yes, I do. I am responsible for the administrative (159a) and the commercial end of the Intalco operation. That includes the financial, environmental, computers, the logistical end of the business as well as the commercial end of the business.

(160) Q. Mr. Briggs, would you trace for us briefly your career from the time you got out of high school, and even give us a date as to when that happened? A. Graduated from high school in 1949, Port Chester, New York. I went to Harvard College, graduated in 1953; proceeded on to Harvard Business School, did not graduate; and proceeded on to New York University Graduate School of Business Administration on a part-time basis.

At that time I entered the steel business with Russell, Birdsall & Ward in Port Chester, New York, where I was employed as a cost and process engineer.

From Russell, Birdsall & Ward I moved on to Merck Company, Rahway, New Jersey, where I was responsible for their international consulting program, called operation auditing in the Merck—

> The Court: It's difficult to hear you, Mr. Briggs.
>
> The Witness: I'm sorry, your Honor. I will speak up.

A. I moved on to Rahway, New Jersey, with Merck, worked in their operational auditing program.

Left Merck; joined American Metal Climax in 1964. I worked in the auditing and the acquisition group at Merck —I mean at American Metal Climax, in their (161) corporate group, became involved with the acquisition of aluminum companies in that capacity.

In 1965, I journeyed to Ferndale, Washington, to look at a new operation that was under way there, and that was the beginning of the Intalco operation.

The plant was just—the property had just been purchased, and a plant was contemplated to be built at that point.

Shortly thereafter I joined the staff of Mr. Furbacher of the AMAX Aluminum Company, an aluminum division of American Metal Climax.

In 1967, September, I was transferred to Intalco on a permanent basis, in the capacity of a processing engineer reporting to Mr. Loyer.

Q. Mr. Loyer, L-o-y-e-r? A. That's correct, the president of Intalco.

Q. Continue on down to the present, if you would. A. Fine.

At that time I was in the cast house for approximately a year, moved on to the pot lines, and to various other operations in the Intalco plant.

About two years later I was made the controller: a year after that, vice-president. And that is my capacity at the moment.

(162) Q. You say that you worked in the cast house and on the pot lines. Does that mean that you were actually engaged in physical labor? You got your hands dirty? A. In the case of the pot lines, I was a foreman in the pot lines. Mr. Loyer thought the best way for a person in my capacity would be to actually participate in floor work. In the case of the pot lines, he said the best way to get your fingernails dirty was to become a pot line foreman, which I did become.

Q. Now, sir, in the year 1967, from the time that you arrived at Intalco, did you have any responsibility in connection with the development of costing systems, that is, systems for figuring out what various operations cost? A.

Yes, I did. Upon my arrival in September 1967, Mr. Loyer asked me to review the costing and pricing systems that we had at Intalco. This was very important because our loan and our metal purchase agreements predicated an accurate costing system, so that the owners could be billed for the metal properly and in conformity with the metal purchase agreements.

Q. And you developed then— A. A system to calculate cost in the plant and in the cast house.

(163) Q. Mr. Briggs, there has been received in evidence here as Defendant's Exhibit D30 a copy of a memorandum which you wrote.

> Mr. Topkis: If I may approach the witness, your Honor, I will hand him a copy of it. I believe your Honor has a copy—

Q. And I want to ask you some questions about it.

* * *

Q. Now, Mr. Briggs, did you prepare that memo, sir? A. Yes, I did.

Q. Now, that memo begins, "Jean asked me to redevelop the cost referred on the Properzi to reflect updated experience on the machine."

Who is Jean? A. Mr. Loyer.

Q. And would you tell us, please, by reference to the exhibit, what you did? I take it you were out to figure out what it cost to produce rod on the Properzi, (164) is that right? A. That's right.

Q. All right.

Will you tell us how you went about that, sir?

Excuse me just a second, Mr. Briggs.

> Mr. Topkis: Your Honor will recall that this is the exhibit that was the foundation for Mr. Clough's testimony yesterday.

The Court: Yes, I recall.

Mr. Topkis: I represented to your Honor that we would develop it today.

A. Fine. I took our standard costing system at a point that I developed in the fall of 1967, and as the bulk of the cost, looking at the exhibit, is under molten metal, boron treated. Now, this, the standard cost of molten metal at that time was approximately 15.2 cents. Now, that was the standard cost for all metal coming out of the pot lines. That included all costs up to and including the pot lines.

The additional cost over 15.2 cents would be the addition of boron, which is an alloying ingredient and also for what we would call handling losses, if you will in the cast house proper.

What I am saying is that 15.769, the figure (164a) there is the figure that we use for all of that. 15.2 was the figure used for metal coming across from the pot lines. So that was a standard figure, basically.

Q. So the 15.769 figure, that's per pound? A. Yes, that's a unit cost.

(165) Q. And you have got that coming all the way across on the first line. That was a standard cost that you had established at your plant? A. That's right, regardless of how efficient or at what percent capacity the wire machine might be working, the cost of the ingredient, the basic ingredient, and the largest element of cost, of course, was molten metal.

Q. The next line is machine cost. A. That's correct.

Q. How did you derive that? A. The same way I derived the machine costs for all the other pieces of equipment in the cast house. I developed a machine-hour rate, which is page 3 in this memo.

Now, this is a production center hour cost sheet and this is a fairly standard method of costing different pieces

of equipment in an operation such as our cast house, where you had many furnaces and saws and ovens and casting pieces of equipment, in addition to the Properzi. Obviously what you do is you take the total cast house cost and you allocate in some fashion—and we generally follow accepted cost accounting procedures in this case—where you allocate, say, power to—

Q. Well, take us right down through it, if you will, please. (166) A. Fine. We will go through it.

In the case of direct labor—

Q. Before we get to that, you were figuring on a two-shift operation. A. Yes, which is two five-day shifts, which equates out in clock hours to 4,160 hours.

Q. That's that 4,160 figure that's there? A. That would be two shifts, 16 hours a day, times five, times 52 weeks.

Q. All right. Then you go to your direct labor cost. A. That's right. And in any given hour, I calculated here, the standard labor six people. One senior operator, one assistant operator and four, I just call them operators, because at that time we didn't have any formal designation for the men themselves, and in any given hour we needed one senior operator for 375 and assistant operator, 368.

Now, normally I would have said four operators, or four general operators at 335, but I used six in this case, because apparently—this isn't crystal clear, because it is five or six years ago, but I did use six here.

Apparently—

Q. The line says four operators at 335, but the multiplication— A. Six operators at 335 gives you $20.10, you see.

(167) Q. Right. A. So I think the thing I am saying here is that we were running with eight people and I made that reflection in the dollars.

Q. All right.

And then what's your next line, sir? A. The premiums are the half time.

Q. Premiums at ten per cent. What does that mean? A. All right. There are many times that your operators have to work overtime.

Now, this is the half time and you pay them time and a half.

Q. Right. A. This is the half time, a reflection of some half time that had to be paid to operators during overtime periods.

Q. Do I gather that you get that $2.753 by adding the three figures above it? A. And taking ten per cent of that.

Q. And taking ten per cent of that? A. That's right.

Q. All right. What's the next thing. A. The supervision and I have in there two foremen and half of a technical assistant. Now, I am not quite sure of what total dollars I assigned to each of the foremen, but (168) let's say $9,000 each for the heck of it and a half of a technical assistant at $6500, which would give a $24,500 figure.

You see, in figuring a machine hour rate such as this, you can either use a total and divide it by 4160 hours or you use your hourly known.

In the case of supervision, I used the total, the $24,500 of the supervision and divided it by the 4,160 hours in order to arrive at an hourly supervision cost.

Q. Of $5.889, is that right? A. That's correct.

Q. Will you tell us about the next line, please? A. Other payroll costs, which would be fringe benefits, basically.

In that case I totalled up the first five columns.

Q. The first five items, not columns. A. Yes, the first five items—and took 23 per cent of it, which at that time was our standard fringe benefit rate for the plant.

Q. And that gave you $8.687. A. That's right.

Q. So your total labor cost is $43.858 per hour of running the Properzi? A. That's right. In any given hour it was 43.86 to run the machine.

(169) Q. All right. And now below that you have set out, I take it, to find what power cost you per hour, is that right? A. Yes.

Q. How did you derive that? A. I used— there is a total power bill for the cast house. And this might serve as a good example of an accepted allocation of power. I would allocate power. This is a common routine. You take the horsepower of each of your pieces of equipment, or motors in the cast house. There might be 60 or 70 motors in the cast house, each with a horsepower rating, 50 horsepower, ten, five, whatever. And each of the costs of the centers then would have a total horsepower involved, and I take that total horsepower and I would multiply that by a volume calculation or the expected hours that that machine or cost center might be expected to run in a year. Total them up and there you have the allocation basis. Horsepower times hours for each of the cost centers. You total them up, and then you have a method of allocating the total power cost of the cast house, and as it turns out, I believe the Properzi would—arrived at $7300 for power that year.

Again, I divided that by the 4,000 hours or 4,160 to arrive at a power cost.

(170) Q. Of 81.738 per hour? A. Yes.

Q. Okay. And next you have a cost for gas. What kind of gas was that? A. Natural gas.

Q. Does the Properzi use natural gas? A. That's a good question. I'm not—I'm not really sure. I would assume so. I would have to defer to some of the cast house people on that one.

Q. But there was— A. Assume that there was because I wouldn't have put it down unless there was.

Q. Okay. And you got an annual gas cost, I take it, of $39,072? A. That's correct, or about .96 cents an hour.

Q. You did your division. All right. You have a water cost here. Derived the same way, I take it? A. Pretty much the same way for all utilities, right.

Q. And then you come down to your next line after the total of operating supplies. How did you derive that figure, sir? A. Well, of course, we had a very sparse history of operating—operating supplies by what definition are expendable items, things that—let's be very simple about it and (170a) say gloves.

Now, that's a ridiculously inexpensive item, but more expensive items might be spouts, as an operating supply.

(171) Q. Things that get used up as a machine operator? A. That's right, consummable, expendable items. I think in the case of operating supplies we might be talking lubricants, emulsions, spouts, fluxing rods for furnace batching. But this sort of thing would be an operating supply.

Q. So do I gather that you took your records of consumption of these items? A. Such as we had at that point, that's correct.

Q. Projected them out over a year and then divided again? A. That's exactly how I did it, right.

Q. How about maintenance, what did you do there? A. Well, we did not have, again, total historical records, but we did have some indication of the number of men that were going to be involved on that machine and the number of spare parts.

Now, maintenance involves labor and spare parts. In other words, a replacement of a motor, that motor would be a spare part, for example; something that's not expendable normally. A worn out part is not normally a consummable item, if you will.

So I did calculate that approximately $46,000 a year would be required for electrical and mechanical mainte-
(172) nance, and again I divided it out to the $11.12 an hour.

Q. So you got total direct costs of $69.29 and 2 mils per hour? A. That's right.

Q. Let me ask you just for a second, Mr. Briggs, about those operating supplies and maintenance entries.

Would operating supplies and maintenance tend to be higher or lower in the starting-up period, in the breaking-in or running-in period, than they would in normal operating production.

I think they'd be much higher until your installation and your start up is completed because the machine is, I think the word used is, still being debugged, if you will.

Q. Debugged? A. Yes.

Q. So that if anything, this statement of the costs overstates the costs of normal operation, is that right?

Mr. Hamilton: Objection. He's leading the witness, your Honor.

Q. Overstates or understates as contrasted with normal operation.

The Court: Overruled.

A. I would say that—I probably made a reasonable attempt here to get a normal cost. I think the content of (173) memo, or the request, just looking at this, was that Mr. Clough was interested in a normal cost as opposed to a, perhaps a start-up cost. I am not quite sure.

Q. Incidentally, this is your handwriting, Mr. Briggs? A. Yes, it is.

Q. So that gives us total direct costs. And then your next line is allocated cast house direct costs? A. Yes. We

had such departments as Production Control Department, and a small technical department.

Q. In the cast house? A. Yes, yes, within the cast house. And there was no convenient method of putting these directly into the cost center, so what we did was we arrived at these costs and we allocated them throughout the cast house basically on an equal basis to all pieces of equipment, and in the case of the Properzi, it ended up with around $3.46 an hour.

Q. And what is your next line, fixed cost, I can't read it on my copy. A. Fixed cost allocation.

Q. Allocation. A. And this is a—

Q. That is not $72 and 75.6 cents? A. No, it is not. The 72.75.6 is a total of the correct cost and the allocated cast house direct cost. (174) In other words, I stopped at the cast house.

Q. Oh, I see. This sheet is a form sheet, is that right? A. Yes, it is a form sheet. I used the same sheet for every machine.

Q. I see. Okay. So you just didn't fill in those blanks on this sheet. A. Right.

Q. Because you weren't interested in fixed costs.

Okay. Coming back then to the first page of Defendant's Exhibit D30, the line, machine cost, what does that represent then? A. The cost accounting concept that we used throughout the cast house is that if you have a cost of a piece of equipment for an hour, that remains constant.

Q. That is $72.766, that is what you derived on page 3. A. That's right.

Q. Okay; what did you do then? A. Having a constant hourly cost, then, it's fairly easy to have a variable production figure and divide that into your constant hourly cost, so that you can measure the difference in cost at different levels of production.

In other words, if you take—it says on the bottom (175) of this calculation on page 1—pounds per hour; if you divide 9800 pounds, that is 70 per cent of the rated capacity—

Q. That is 70 per cent of 14,000, is that what 9800 is? A. That's correct. If you divide that into your $72.76 figure, you will come up with 7 mils.

Q. That is .00742, that first entry? A. That's right; in order to produce a pound of rod, it would be 7 mils. If you go to a higher level of production, let's say a hundred per cent of capacity, or 14,000, you would divide the 14,000 into your constant $72.76 hourly cost, and you would arrive at 00520, or 5 mils.

Q. So what the second line shows, if I understand you, Mr. Briggs, is the cost of machine time to make a pound of rod depending on whether your machine is working at an hourly rate of 9800 pounds per hour, 11,200 pounds per hour, 12,600 pounds per hour or 14,000 pounds per hour, is that correct? A. That's correct, right.

Q. Okay. What is the next line, shipping cost. A. The shipping cost is the standard shipping cost for the cast house. That was applied to every pound of (176) metal that we shipped. And the Properzi material carried the same unit cost as every other pound in the cast house because it had to be handled, loaded into rail cars; that is what that involves.

Q. Was that a standard cost? A. For all pounds in the cast house, that was applied to all of them, yes.

Q. That is why it is the same all the way across regardless of your efficiency. A. Absolutely, right.

Q. Now your dross recovery cost, what is that, sir? A. In batching a furnace, you do have a dross product coming off. This dross contains a large amount of aluminum. What we would do is to take this to our dross house—this is a separate recycling facility—recover the aluminum, and

then to take it back to the furnace and to spill the recovered aluminum back into the furnace. Again we do this for all of our batching operations in this cast house. This is standard procedure, and we charge—we did at that time—a standard 6/10ths of a mil, if you will, for every pound shipped, because it all went through the dross house at one time or another, as did the Properzi molten metal.

Q. So this was a standard cost that you figured into all of your production costs in costing? (177) A. Yes, sure.

Q. Okay. Now, the next line is rent and plant allocation to cast house. What does that mean, sir? A. Well, your period costs are your fixed costs. Again, every pound that went out of the cast house carried a fixed cost, if you will, that is why I didn't really delve into, on this page 3, here, I didn't fill in the bottom because I had the fixed cost of the cast house; I just applied the standard that we used with every pound of metal.

Q. I see. So in costing your production of all metal coming out of the cast house, it was your standard practice to cost in a factor for rent and plant allocation? A. Yes.

Q. And the same factor was used throughout. A. That's right.

Q. Okay. Now your bottom line then, the totals, .17053, and .16961, and so on, across, what do they represent? A. They represent obviously the total of the top five figures. Molten metal, machine costs, the shipping costs, dross, and plant allocations are the fixed costs, and, of course, the range is from—the low cost is 16.8, the high cost is 17.1.

(178) Q. So do I understand, then, that these calculations represent the cost per pound of producing rod, depending on whether the machine was working at 70, 80, 90 or a hundred per cent of rated capacity? A. Right. The significance, of course, is that maybe 90 or 90 per cent plus, is in your molten metal cost. There is very little ad-

ditional cost percentagewise in the cast house. Most of our cost at Intalco is in the metal before it even reaches the cast house.

(179) Q. Your next line—incidentally, there is a handwritten figure on my copy between total and premium over T-ingot. Is that your handwriting? A. I don't thing so. I don't have it on this copy.

Q. Okay. Our next line is premium over T-ingot. What does that mean, sir? A. Okay. Our standard method of billing at Intalco is that we calculate a cost, using this same technique for our simplest product which is T-ingot. This is an alloyed—unalloyed—pardon me—a hundred per cent aluminum ingot. This, by definition, is the simplest product that we can make.

Q. T-ingot is? A. T-ingot, right. And what we do is that when we bill our owners, we bill them for every pound going out gets a T-ingot billing. In addition to a T-ingot billing, they're billed a premium for the different alloys or the different forms that the cast house can give aluminum.

In other words, the base cost at this time was approximately 16.2. Now, that was the cost, the base cost of our simplest product, T-ingot.

Q. And these figures, then, represent the (180) additional or incremental cost over T-ingot of the Properzi-produced rod. A. Right. That includes machine cost and alloying ingredients, such as boron, for example, so the premium is in mils.

Q. Right. I see.

Okay. Now over on the next page, the top line is "2 shift annual output in pounds." How do you get those figures, sir? A. If you take—the 2 shifts by definition is 4,160 hours.

Q. And you multiply that by the hourly production? A. Sure.

Q. I see. Okay.

So if the machine were turning out 12,600 pounds per hour, your annual production would be 52,416,000 pounds? A. I believe so, yes.

Q. Now, down at the bottom of the page, Mr. Briggs, you have the message to Mr. Clough, "Herb, the question of cost is obviously secondary to (1) is the machine functionally sound, and will it do what it's supposed to do, and (2) can you sell the wire?" Do you see that language? (181) A. Yes, I do.

Q. Now, this memo was written on May 29, 1968. I would ask you, sir, at that time had you observed the operation and difficulties in operation of the Properzi machine installed at Intalco? A. Yes.

Q. Was it your opinion, based on your experience as a cast house operating man and as a man experienced in the aluminum trade that the machine was functionally sound? A. Oh, sure.

> Mr. Hamilton: Oh, I object to that, your Honor. That is the ultimate issue in the case, and this man has no experience at all on the Properzi equipment.
>
> The Court: He has no experience at all with Properzi equipment?
>
> Mr. Hamilton: I believe that is correct, your Honor.
>
> Mr. Topkis: We'll develop that, your Honor, and I will put the question sometime later. I will defer to my friend for a few minutes, if I may.

Q. I will come back to that question, Mr. Briggs.

Now, let me ask you, did there come a time, Mr. Briggs, when you had any responsibilities in connection (182) with the Properzi machine at Intalco? A. Administratively, definitely.

Q. Beyond administratively?

Just tell us what your responsibilities were, when they began, what you did. A. All right, fine.

At the time that I arrived at Intalco in September of 1967, Mr. Loyer, for whom I worked, assigned me to the cast house to work on this cost project that we just reviewed, and he called me back in shortly thereafter, and outlined some of his thoughts on the Properzi machine, and his problems in his own mind that he was having with the machine.

He had just completed building a 200 million dollar—he had just finished building the largest smelter in the USA.

Q. That was the Intalco plant? A. The Intalco plant, and he had beaten his budget by ten or fifteen million dollars and brought the plant in four months early, and he was annoyed and embarrassed by this Properzi machine, that it was—he was uneasy about it, and he asked me directly to get into the Properzi problem, to find out what the problem was, and to do everything that I could to expedite the (183) completion of the Properzi installation, and that became a formal assignment of mine, and I proceeded to do as much as I could to fulfill that assignment.

Q. Specifically, sir, what did you do? A. One of the first things I did was to get—of course, to spend some time on the floor with the Properzi, spend some time with the Essex people, Mr. Kilburn, but more importantly to sit down with out different superintendents, our maintenance superintendent, mechanical maintenance, electrical maintenance, Mr. Li, Mr. McDonald.

Q. Who were Mr. Li and Mr. McDonald? A. Employees of the cast house.

Q. Did they have some responsibilities in connection with the Properzi? A. Oh, yes, indeed.

Q. What were they? A. Mr. Li was the technical assistant in the cast house, and he was in charge of technically assisting Mr. Kilburn wherever possible.

Q. And Mr. McDonald? A. He was the cast house superintendent. He had charge of the entire cast house, including the Properzi in terms of the manning particularly.

(184) Q. Okay.

So you spoke with all of these people, sat down with them, and what else happened? A. I asked them very directly for a check list of the different jobs that they visualized were occurring on the Properzi, what problems they personally were having, what problems they anticipated, and how we could go about correcting them, and I got from each of them a rather detailed list of the problems as they saw them.

The next step I took with them is—and this was an internal Intalco meeting—is that I developed with them an action plan to solve these problems. Those that remained, that we could not solve internally, I listed and called a meeting with Essex, Mr. Kilburn and I think it was Mr. Dunstan, and early in 1968 we sat down to have a full-fledged progress meeting, to see what our open ends were.

Q. With whom did you meet on that occasion? A. It was Mr. Kilburn and I think Jim Dunstan, and I believe most of our maintenance types, engineering and our cast house people.

Q. There has been marked here as Exhibit D-141 a memorandum entitled "Conditions for acceptance of Properzi equipment," and I will ask you whether that (185) memorandum had any significance in connection with this meeting that you have just mentioned. A. Yes, it certainly did.

Q. How did the memorandum come to be created?

If you know. A. I think I do. This is a summary of the meetings that we had at Intalco of the open ends on that machine. In other words, these things had to be done before this machine could be considered to be anywhere near installed.

Q. Who prepared this memorandum? A. I believe that I did.

Mr. Topkis. I offer, your Honor, Plaintiff's Exhibit D-141.

Mr. Hamilton: No objection, your Honor.

(Plaintiff's Exhibit D-141 received in evidence.)

Q. Mr. Briggs, whose handwriting appears all over that, if you know? A. My writing.

Q. Oh, that is your handwriting.

Now, up at the top it's marked, "Meeting 1/8, Jim Dunstan and Charlie Kilburn." A. Right.

(186) Q. So this is the memorandum that you used as your guide at that meeting? A. That is correct.

Q. Did you distribute copies of the memorandum to Mr. Kilburn and Mr. Dunstan and the others present? A. I would assume so, because it was the discussion item at hand.

Q. I gather, just to sum it up and avoid spending a good deal of time on it, that these were the problems that, as you saw, remained, and that you wanted resolved before the machine was taken over by AMAX; is that right? A. Well, we concentrated on D here. The first A, B and C were primarily problems—in other words, problems of AMAX and Essex.

Now, I was concerned about the Intalco, the resolution of and involvement in Item D.

For example, D-1.

Q. D runs all the way over to the next page. A. Yes, D is the bulk of this material here. D-1 involves the draw-

ings. You can't maintain a machine if you don't have the blueprints.

(187) Q. So you wanted the blueprints? A. We asked for the blueprints, which I thought was a fairly significant item.

Two, we needed an equipment list.

Three, we needed the spare parts list. It's difficult to maintain a machine if you don't have the spare part in the warehouse and to have the spare part in the warehouse we had to know what—what we had to either acquire or push to get it acquired.

Q. The next item is a financial item. What's Item 5? A. Apparently the motor was—a mill motor was installed that our people couldn't align. In other words, if the motor had to be moved in one fashion or another it was very difficult to re-install and realign. Many times you would have to take equipment off or crawl under the machine to fix something and then put some equipment back. Perhaps this was the case. I'm not quite sure.

But this would be a perfect example of a debugging item. All we are talking about is a couple of alignment screws on a motor so you can get the motor realigned quickly after you have had to disturb it. It's a minor point, really.

(188) Q. I gather, Mr. Briggs, that this was a check list. You wanted all these items taken care of, is that right? A. That's how we go about installing a piece of equipment.

Q. And that's what you were doing here? A. Exactly.

Q. Now, did you use this list through time to make sure that the items listed there were accomplished? A. Sure. On a regular—on a fairly regular basis. I can recall a couple of meetings involved. One about, say, two months later, where we sat down and revised this list. I mean, this was a working document for us. And the thing is that two months later we might have only one page left.

Q. I see. A. So the point is that's how you install—that's how you get something done.

Q. All right.

And did you go on thereafter in seeing to it that the problems that arose with the Properzi were resolved as best you could, or what did you do? Was that your responsibility? A. Well, my responsibility was for—to Mr. Loyer (189) was to exert every possible pressure on our people at Intalco to get this check list done. I can name—I can look at No. 8 here. D-8, the emulsion foam system. That was crossed out at the meeting, largely because our people solved it themselves. So it's no problem.

Q. Okay. A. But that's the way that you push in terms of this type of a situation to get a job done. We wanted the machine to function. It was an embarrassment to Mr. Loyer that that piece of equipment wasn't functioning as rapidly—

> Mr. Hamilton: I object on the embarrassment of Mr. Loyer which may or may not have any relevance but is beyond the scope of this witness' knowledge.
>
> The Court: Yes, sustained.

Q. So, Mr. Briggs, you made it your business to see to it that this check list was accomplished. A. Yes. That was my job.

Q. And did you go on through the months working on these problems? A. Right up to the very end.

Q. Now, Mr. Briggs, I'll go back to the question that I put to you before and to which my friend, Mr. Hamilton, took exception.

(190) In your judgment as of May of 1968 was the machine functionally sound and would it do what it was supposed to do?

> Mr. Hamilton: I object again, your Honor; that is the ultimate question in the case. All this man

testified is that he exerted pressures on people to get these jobs done. That's the essence of his relationship and I don't think his opinion of whether the machine is functionally sound has any basis.

The Court: Well, I gather the witness has been qualified as an expert on this machine, anyway, and it's my understanding, Mr. Hamilton, that leading questions may be put to an expert and, in the discretion of the Court, a question regarding the ultimate decision which the Court has to reach for the Court's benefit, if the Court desires it.

So the objection is overruled.

A. I can state, based upon the decreasing—upon decreasing in the length of this list, that in the spring we were down to only a few items—that that machine was definitely operable and functionally sound. I think that we had made some suggestions to Mr. Kilburn, the Intalco operating people had made some suggestions to Mr. Kilburn regarding wheel alignment and emulsion (191) changes. He was very reluctant to make these changes.

For example, the question of wheel alignment is something that our people recognized very early as causing a problem.

Q. What do you mean by "wheel alignment," Mr. Briggs? A. This is alignment of the flow or the spout, apparently, with the wheel as the rod—as the molten metal is laid onto this wheel it forms a triangular shape before it goes to the mill, and the alignment of this particular spout with the wheel was approximately—I don't know, 25°, something like that.

Q. So it's the alignment between the spout and the wheel? A. Yes.

Q. I see. A. And this—our recommendation was that we should change that alignment, that it was our feeling

that this was causing part of the problem with the machine.

Mr.—we asked Mr. Kilburn to make the change, especially after it hadn't worked too well. We checked with Nichols, who also suggested that we make the change, and Mr. Kilburn said that he would do so only upon the written authorization of the Properzi (192) people, which we asked him to get. That's part of the check list material.

I think we were all talking—we were all leaning in the same direction. It was a matter that Mr. Kilburn wanted to get written authorization to do this, which was okay, as long as it was forthcoming, you see.

I think that if we had moved a little bit more swiftly in these items, that we would have had the machine functioning somewhat earlier. However, at the time that the machine was finally stopped, if you will, I think the problems had narrowed themselves down to where these little alignment problems such as we talked about here were resolved, and we were down to spots, wheel alignment, emulsions or lubricants, or cooling agents, and again I can say the page was about half a page or a page at the end—at the time that the machine was stopped.

Q. Mr. Briggs, is there anything unusual about the method which you employed here to solve the problems, that is to say, setting up a check list of the problems, attempting to resolve them, and revising the check list as the problems were solved, and progressing that way? Is that an unusual way to attack machinery-introduction problems? (193) A. We call this type of a list a punch list.

Q. What? A. A punch list. That's our lingo at Intalco. We just finished building again the largest aluminum plant in the country.

No, it's a very standard—it's the only way that you can systematically solve the many problems that go with the installation of a piece of equipment or build a plant.

Q. Fine.

Mr. Topkis: Just a moment, please, your Honor. I'm almost concluded.

Q. Mr. Briggs, did Mr. Kilburn complain to you at any time about any maintenance problems he was having, that is to say, having maintenance work performed in connection with the Properzi? A. From time to time, yes.

Q. And what did you do? A. I tried very diligently to get the problem solved. I can probably speak to an example or two. The spouts, I became personally involved in. We were using ceramic spouts initially, I believe, which developed—which had very poor life and developed—largely due to some pinholes in the spouts. I worked (194) with our purchasing agent very directly in order to bring in some different types of spouts. I believe they were titanium spouts, in order to resolve this problem.

I know that I worked with Charlie on this one, and we were all trying to do the same thing, to get the machine to run as rapidly as possible.

There did seem to be some question relating to what maintenance of his installation was, however.

Q. Did Mr. Kilburn complain to you that he wasn't getting sufficient support from your maintenance people? A. Yes, he did.

Q. And I'm not sure I understand what you did about that. You told us about spouts, but are spouts a maintenance item? A. No, but when—we had a bushing failure—I remember this one very clearly because it was a major cause—it was a major problem at the time. A bushing failure, this is a very low-cost item, two or three dollars, but it was a very specialized bushing or something, and we had to send to Italy to get this bushing.

Q. What is a bushing? A. Oh, a bushing is almost just a tubelike thing. (195) It's a hollow tube, short length, in layman's terms, but it could be of a particular alloy or it could be of a particular sizing that made it very critical. We had to send to Italy for this bushing and the machine was down for, we will say, close to a week, because it wasn't operable.

Q. It wasn't operating? A. It wasn't operating because of this inexpensive but critical part, and obviously Mr. Kilburn was very upset and I think we all were. But I wasn't quite sure what we could do until we had a full set of spare part lists. I mean, you have to have knowledge of what the critical parts are before you can have them in your warehouse.

(196) Q. Did you assign any particular people to work with Mr. Kilburn on the Properzi? A. I was instrumental in getting them assigned.

Q. Who were they? A. Oh, I can recall DeMarco and Alf Loney.

Q. And what were their areas of operation? A. Loney was the plant master mechanic. He was the best mechanic we had. And we had just reached a point with Mr. Kilburn that we tried to give him the best we had.

Now, this didn't mean that Mr. Loney didn't have other duties from time to time. We don't take our highest priced mechanic and stand him in front of a machine for eight hours a day or ten hours a day. He had other things to do. But I made it very clear that this piece of equipment was fairly special and we had to give it some priority treatment.

Q. And how about Mr. DeMarco. What was his area of specialty? A. He was electrical, and his office was very close to the Properzi, and the electrical people didn't seem to be aware of Mr. Kilburn's problems. I think he was

more concerned with the mechanical maintenance than the electrical maintenance, if my memory serves me right.

Q. Did Mr. Kilburn ever complain to you about Mr. Li's work? (197) A. Not to me directly. He might have, but I don't recall it.

Q. To your recollection, did you ever fail or refuse to perform—by you, I mean the people at Intalco— A. No.

Q. —any ask that Mr. Kilburn asked of you? A. We tried our very best to do what Charlie had to have done. If he asked for something late Friday night, we wouldn't necessarily bring people in Saturday and Sunday to solve this problem, depending upon the size of the problem, but we did everything within our—our reasonable ability to accomplish what he had to do.

Q. Did you obtain any report from Mr. Li about maintenance delays on the Properzi? A. Yes, I did. When Charlie complained about maintenance, I asked Mr. Li to get in there and get the maintenance log and to tell me personally what the facts were, how many maintenance requests were asked for. We have a maintenance designation in our system which is "critical," "not critical," attempting to establish priority work, and Mr. Li did report back to me on that.

Q. I show you a document that has been marked D140 and I ask you whether that is the report which Mr. Li referenced to you. (198) A. It appears to be.

Mr. Topkis: I offer Plaintiff's Exhibit D140 in evidence, your Honor.

Mr. Hamilton: No objection.

(Plaintiff's Exhibit D140 for identification was received in evidence.)

Q. Mr. Briggs, I see here—or perhaps I will ask Mr. Li about the details of this report when he testifies, but I will

ask you this, sir, on the first page at the bottom, paragraph number 5, which reads "I can't recall there was any direct request addressed to myself or Jim Weigand of the Essex people which was refused."

Who was Jim Weigand? A. Jim Weigand was the foreman, I believe, on the Properzi at the time. He was a leader.

Mr. Topkis: Thank you, Mr. Briggs.

I have no further questions, your Honor.

Cross-examination by Mr. Hamilton:

Q. Now, Mr. Briggs, I think you just testified that to the best of your knowledge, no one refused to help Mr. Kilburn with his maintenance requests, is that right? A. That's right.

Q. Wasn't Mr. Kilburn's complaint more related to (199) the slowness of the response to his requests rather than outright refusals? A. That's possible, yes.

Q. Do you recall whether or not you formed any conclusion as to the validity of Mr. Kilburn's complaint about the slowness of maintenance? A. Mr. Hamilton, the question when Mr. Kilburn wanted the machine modified, we were reluctant to install and modify a machine. By maintenance we mean where something wears out, we will fix it, but we were not to install the machine.

When a machine is being debugged and is being run-in and is being essentially installed, we were told that that was Mr. Kilburn's problem and the contractor's problem. There was a contract there to install the machine. If something wore out, it was our responsibility to repair it.

Now—

Q. I am talking about maintenance delay, Mr. Briggs. I'm not talking about installation. A. Maintenance delay is one thing, but Mr. Kilburn at times regarded it as our,

Intalco's, function to install or to modify the machine, and that's not maintenance delay, Mr. Hamilton.

Q. When was the machine installed, Mr. Briggs, within your definition? When was the installation complete? (200) A. When the conditions of acceptance were, as far as Intalco were concerned, when this item D was completed.

Q. And that was never, in fact? A. I will give you an example, Mr. Hamilton—

Q. My question, Mr. Briggs, is whether or not the items listed in D were ever completely taken care of? A. I don't think they were.

Q. So far as you are concerned, they never finished the installation within your definition of "installation?" A. By training people—

Q. My question, Mr. Briggs, is whether or not within your definition of installation the machine was ever installed? A. That's right.

Q. All right. Now, let's focus—

The Court: Read the question and the answer.

(Record read.)

The Court: I don't understand the answer. Is the answer yes or no?

Q. Mr. Briggs—

The Witness: The answer was—

The Court: The answer was "that's right."

The question would seem to call for a yes or no answer. I don't understand the answer.

(201) A. By that definition, the installation and the run-in was never completed?

Q. I am just talking about installation, Mr. Briggs. Let's focus on installation. I want to know whether or not, in your definition of terms, this equipment was ever installed? A. It was physically in place.

Q. And it was operating, wasn't it? A. After a fashion, yes.

Q. And rod was coming out the end, wasn't it? A. Sometimes.

Q. And you were coiling that rod, weren't you? A. Yes.

Q. And you were selling that rod to Essex, weren't you? A. Intalco was.

Q. Well, somebody was selling it to Essex, were they not? A. Yes.

Q. And in your judgment the machine wasn't yet installed, is that what you are telling us? A. I am saying that by my definition it wasn't run-in.

Q. I am talking about installation, Mr. Briggs.

The Court: Now, is there a difference between (202) installations and run-in.

Mr. Hamilton: There certainly is in the contract, your Honor. The obligations of the parties vary in paragraph 3.

The Court: Well, let me get the contract. I can't follow this.

* * *

The Court: All right. Now, you say there are two separate concepts there?

Mr. Hamilton: Yes, your Honor.

The Court: One is installation and the other one is running-in?

Mr. Hamilton: And operating properly is number three, but we were talking about installation and running-in.

The Court: Well, you will have to explain that to me. There are three separate concepts running together (203) in this paragraph.

Mr. Hamilton: Yes, your Honor. You will notice the first sentence in paragraph 3 gives Essex the obligation to install the Properzi.

The second sentence is, after installation, after it's been installed, then Essex will provide adequate training in the operation for the other crew, who will operate it.

Now, after installation, then we have got to provide a trained crew who will operate it. Then the next sentence is, then we are responsible for the other running-in of the Properzi. That's running it in to get the machine to function, to get the parts moving, everything goes. But AMAX's responsibility to start delivering rod doesn't commence until another thing happens, until the machine is operating normally, which has to be something different from running-in, or else that third sentence, doesn't mean anything.

It is also important down in paragraph 4, because AMAX's obligation to give maintenance doesn't start until after the completion of the installation and its running-in. So AMAX had no obligation under this contract to give day-to-day maintenance and make repairs until after it was installed and had been run-in.

(204) Mr. Briggs is telling me here that it hadn't even been installed yet and if it hadn't been installed yet, why were they giving us day-to-day maintenance and making repairs? That was the source of my astonishment here at his testimony.

The Court: I thought it was your claim that the machine was never operating?

Mr. Hamilton: It was never operating normally, but it had been run-in. Run-in means, your Honor, when you punch—

The Court: I know. I asked the first witness what he meant by run-in.

Mr. Hamilton: Yes, ma'am. I remember that. And he got off on a stipulation which Mr. Topkis and I had agreed upon which relates not to run-in but relates to operating normally and that was the reason I wanted it read at the time.

The Court: Does the plaintiff agree that these are separate concepts or is there some dispute about that, between run-in and operating normally?

Mr. Topkis: It is our contention that the running-in goes up to the point where the machine is operating normally, and when it is run-in it is operating normally.

The Court: That would seem to make sense, but (205) unless there is some technical decision here or—

Mr. Hamilton: Well, let me explain this, your Honor—

The Court: That would seem to me to make sense. That it's run-in, when it's up to the point of operating normally.

(206) Mr. Hamilton: Here is my point, your Honor. The Properzi machine is not just a machine. It is really a process. There are four or five states to it.

The Court: I understand.

Mr. Hamilton: All right. Now there comes a point in time where each stage will work. You punch a button and it will function, and the crew has been trained, they all know how to do it.

But the machine won't really operate normally because they haven't gotten coordinated yet. There are perhaps deficiencies in pieces of equipment and so forth.

Now, we claim that it's been run-in when the processes will work. It isn't yet running, operating normally.

The Court: It is run-in when it is operating normally?

Mr. Hamilton: No, ma'am, it is run-in when each piece of equipment will work, but that isn't operating normally. Operating normally requires some degree of expertise, some degree of function over and above just having each separate station somehow turn over when you push the button.

The Court: I see. Well now, my question to you, Mr. Hamilton, is, is that a technical distinction?

Mr. Hamilton: That is just an interpretation of (207) the contract which our people—

The Court: That is your interpretation, is that it?

Mr. Hamilton: Yes.

The Court: That is not based on any term of art in this field or any technical description of run-in as opposed to operating normally, is that it?

Mr. Hamilton: My witness, Mr. Kilburn, will tell what the understanding was. He's an expert on the installation of equipment of this kind; does it all the time; and will explain that very concept to your Honor.

I think it has some—

The Court: Let me ask you this: Is it your claim that the machine was installed, that is number one?

Mr. Hamilton: Yes, ma'am.

The Court: All right. Is it your claim that the machine was run-in?

Mr. Hamilton: Yes.

The Court: Is it your claim that the machine was operating normally?

Mr. Hamilton: Mr. Topkis and I both agree that it was not.

The Court: Is that right?

Mr. Topkis: That's right, it didn't reach 12,600 (208) pounds per hour.

The Court: Let me ask you the same question. Is it the plaintiff's claim that the machine was installed?

Mr. Topkis: Yes, your Honor.

The Court: Is it the plaintiff's claim that the machine was run-in?

Mr. Topkis: No. As I attempted to explain a few minutes ago, it is our notion that the running-in period ends when normal operation begins, that they are—

Mr. Hamilton: Synonymous.

Mr. Topkis: No, they're not synonymous.

The Court: I am just asking what your claim is, that is all. Just a moment now.

Mr. Topkis: Right.

The Court: All right, you may proceed.

By Mr. Hamilton:

Q. Now, Mr. Briggs, I think you just heard your counsel concede that the machine was installed, so we are over that hurdle, all right? A. They're set in concrete, right.

Q. Now, you also heard him say that this machine was not operating normally. Are we over that hurdle? A. That's correct.

Q. We never had a hurdle on that one, I guess.

(209) Now, is it your position that the machine was not yet run-in? A. That's correct.

Q. Was in fact Intalco giving day-to-day maintenance service to Mr. Kilburn? A. Yes.

Q. Now, would you tell me, Mr. Briggs—read the language of paragraph 4, and tell me why you were giving day-to-day maintenance service to Mr. Kilburn if a machine was not run-in?

The Court: Just a minute. Let him identify the exhibit.

Mr. Hamilton: D1. I am sorry, your Honor. Exhibit D1, Plaintiff's Exhibit D1.

Mr. Topkis: If your Honor please, I wonder whether this is a proper question to put to this witness. He didn't draft this rather bizzarily written document, and to ask him why he was doing something, I suppose the answer is because he was asked to do it. There is no question that Mr. Kilburn was making regular requests for maintenance help, and there is no question that we were, to a greater or lesser degree, complying with those requests.

Now what issue is being explored now, I don't understand.

(210) Mr. Hamilton: I am challenging his definition of running-in, Mr. Topkis, because you had no obligation to give any maintenance or perform any repairs until after the machine was run-in.

Mr. Topkis: We began performing maintenance tasks from the very day the machine arrived. Isn't that correct? There is no dispute about that.

Mr. Hamilton: It must have been gratuitous then because you had no obligation to do so until the machine had been run-in.

Mr. Topkis: Well, Mr. Kilburn—

The Court: There are two separate things, of course, whether he had an obligation to do so and whether as a matter of fact they did it.

Now, what is the question to the witness, whether he understood that they had an obligation to do so, or whether, as a matter of fact they did it?

Mr. Hamilton: I can answer that one, your Honor, or I will back up and broach the problem and try to fill in that gap.

The Court: All right.

Q. Mr. Briggs, in January of 1966 had you seen a copy of this agreement, Plaintiff's Exhibit D1? A. Of course I had.

(211) The Court: January '66?

The Witness: January '66 or '67 did you say?

Q. I meant to say '68.

The Court: You said '66.

Mr. Hamilton: I am very sorry.

Q. January 1968, Mr. Briggs, at the time you had the meeting. A. Yes.

Q. You had seen a copy of this agreement? A. Yes.

Q. Had you read the language of paragraph 3? A. I read it, yes.

Q. Had you read all of it? A. Yes.

Q. And paragraph 4? A. Yes.

Q. Were you aware when AMAX had an obligation to start giving day-to-day maintenance? A. I was aware that Charlie was responsible to install the machine.

Q. My question, Mr. Briggs, is maintenance. Were you aware of when AMAX had an obligation to give day-to-day maintenance under this contract, Plaintiff's Exhibit D1? A. I was aware that Intalco should, or I believe (212) Intalco should maintain the machine, replace worn out parts, provide this sort of service.

Q. Were you doing that pursuant to the terms of this contract? A. We were asked to do it.

Q. By AMAX? A. And by Essex, by Mr.—

Q. But you were operating pursuant to the terms of this contract—

Mr. Topkis: Let the witness finish. He was saying by Mr. somebody.

A. By Mr. Kilburn. We were asked to perform maintenance duties by Mr. Kilburn. We did that.

(213) Q. You were asked by AMAX representatives also to perform maintenance duties for Mr. Kilburn? A. I don't—I can't specifically say that that was the case.

Q. You don't ever recall Mr. Kaufmann telling you to perform maintenance services for Mr. Kilburn? A. He might have. But I don't recall it.

Q. Did you know of any other document that was governing the relationship between AMAX and Essex, with respect to this Properzi, other than this contract here which you read in 1968? A. My copy of the contract was unsigned.

Q. Now, Mr. Briggs, I want to return to where I originally started, which was maintenance delay.

I think you said that Mr. Kilburn had complained of maintenance delay, is that right? A. He had, yes.

Q. And you investigated that and got this report from Mr. Li which is Plaintiff's Exhibit D-140, isn't that correct? A. I believe so, yes.

Q. What conclusion did you draw as to the validity of Mr. Kilburn's claim of maintenance delay? A. I didn't think that the delays were abnormal (214) at all.

Q. Whatever delays Kilburn had, the rest of the plant was experiencing as well? A. Sure.

Q. Would you have a copy of Exhibit D-140 there in front of you, Mr. Briggs? A. I don't believe so.

The Court: I have the original.

Mr. Topkis: We gave that to your Honor because it was the clearest.

Mr. Hamilton: I have an extra copy here, Mr. Briggs, which you can look at.

Q. Now, would you flip to the second page of this exhibit? Is this in Mr. Li's handwriting, Mr. Briggs? A. I would assume so. I'm not sure.

Q. Now, would you read the heading on the first group of columns there, where the X's are marked, that says "Priority" as I read it. Is that correct? A. Yes.

The Court: What page is it?

Mr. Hamilton: The second page of the exhibit, your Honor.

Q. Underneath "priority" there are three sub- (215) categories, emergency, immediate and normal; is that right? A. I'm having trouble reading this copy. I'm not sure that "imd." means immediate, but it seems reasonable that it might.

Q. Well, did, in fact, in 1968 you have a priority rating system when you required maintenance work to be done? A. Yes.

Q. And were those the three categories? A. I believe so.

Q. Now let's just look down, Mr. Briggs, to the fourth entry here, which, as I read the handwriting, and you correct me if I'm wrong, it says, "Make 3 hardwood blocks." The priority is immediate.

The Court: I don't see where you're reading.

Mr. Hamilton: The fourth entry, your Honor.

The Court: I see.

Q. "Make 3 hardwood blocks." The priority is immediate. The request was issued on November 15th. It was completed on November 20th, which is five days, and the work took half an hour.

Is that the way you interpret that line? A. It says that.

(216) Q. Yes.

Now let's go down about five more entries to the one that starts "Weld 4 new belts per Essex instruction." Isn't that the way you read that? That is an emergency,

had an emergency rating. The request was issued on November 20th. It was completed four days later on November 24th, and took four hours.

Am I interpreting this right, Mr. Briggs? A. I'm not sure. Was 11/20 Friday?

Mr. Topkis: No, a Monday.

A. Monday, okay.

Q. I am interpreting it right? A. It says that.

Q. Let's look at the next item: "Round off end of pin."

Now that had an immediate rating. Order went in on 11/24. It was finished on 11/27, which was three days later, and one hour was expended on that.

Mr. Topkis: It was sent in on Friday and it was finished on Monday.

Q. Go down two more, Mr. Briggs. It says, "Cut 2 pairs of"—something. Can you read that? A. Pieces of "marinite."

(217) Q. That has an emergency rating. It went in on November 20th, came out on November 27th; seven days involved there, and even if there is a week end involved, there is still seven days involved, and it took half an hour to do that, and that has an emergency rating, Mr. Briggs. A. Assuming that you can buy the marinite, it will probably be done.

Q. This is the typical service that was throughout the plant on maintenance requests, is that right, Mr. Briggs? A. Marinite is not an easy item to purchase. You just don't buy it at the ten-cent store. It's quite possible that we didn't have any at all in the plant, and we had to wait until we got a shipment in.

Mr. Topkis: I think the record might show also that that was Thanksgiving week.

Q. Well, I could go down many, many of these, Mr. Briggs. Let's just turn the page and look at a few here on the second page.

Look at the one here that says, "Straighten out and weld 2 guides," about the eighth item down, "Straighten out and weld 2 guides." That had an emergency rating.

Do you think there was a problem of purchasing (218) anything there? A. I don't think so.

Q. I wouldn't think so, either.

That came in on December 13th, emergency—

Mr. Topkis: That would be a Wednesday.

Q. —came back on December 18th, four hours.

Would you say that was typical of the time period, Mr. Briggs, that it took to comply with maintenance requests at this time? A. It might have been, yes.

Q. This was a new plant, I guess, wasn't it, Mr. Briggs? A. Yes.

Q. And it was the biggest reduction plant in the United States, wasn't it? A. And still is.

Q. How long had it been functioning at this time? A. It was still under construction.

Q. Still under construction.

Was the maintenance crew receiving a lot of requests for assistance from other places in the plant? A. Of course.

Q. And was it the same maintenance crew that received the requests that Mr. Kilburn had? (219) A. Well, it was a little bit different because at that time we had a departmental maintenance concept, so that any maintenance done outside of, we'll say, specialized maintenance, the wood shop would be specialized maintenance, we obviously didn't have a wood shop in the cast house, for example, but your normal mechanical and electrical cast house problems were handled by a cast house maintenance crew, which wasn't involved with the other portions of the plant.

Q. But it was involved with the whole cast house, isn't that correct? A. I'd say yes, yes.

* * *

(220) Q. Mr. Briggs, do you consider yourself an expert on the Properzi operation? A. No.

Q. Prior to coming to Inta'co, Mr. Briggs, had you had any operating experience at all relating to a Properzi? A. No.

Q. Have you ever had any operating experience relating to a Properzi? A. No.

Q. Now, your duties, as I understand it, with respect to the Properzi, were as Mr. Loyer's man on the spot, so to speak; is that right? A. That's right.

Q. Did you have any particular duties that related to Mr. Kilburn? A. Well, formally, I was asked to be sure that Mr. Kilburn got the things he needed.

Again, I can refer to the spouts, where I directly interceded to get different spouts purchased, in that sense, because Mr. Kilburn wanted them, or something to that effect.

Yes, in that sense of the word, I did.

(221) Q. Were you the man who had the responsibility for taking care of whatever complaints Mr. Kilburn had? A. He could come to me if he wished, and occasionally he did. Many times he would talk with the people at the machine proper, or to the plant manager, for example, or to whoever he felt might be able to solve the problem.

Q. Well, who was Mr. Kilburn supposed to go to when he needed maintenance? A. To the maintenance people and to the operating supervisor on the machine.

Q. And was that Mr. Li, the operator— A. No, Mr. Li was the technical assistant. The operating man on the machine was either the group leader or the foreman in charge of the machine.

Q. And did Mr. Li report to Mr. Kilburn? A. No.

Q. Did anybody report to Mr. Kilburn? A. I think Mr. Kilburn had an assistant there from time to time of his own.

Q. From Essex? A. Yes.

Q. But none of the operating people reported to Mr. Kilburn; is that right? A. That's right.

(222) Q. What proportion of your time did you spend on the Properzi operations, just in general terms, over the period, let's say, December 1, 1967 through May 1968? A. Maybe twenty-five per cent.

Q. And would that be at the location, at the Properzi? A. Perhaps in the cast house itself, but not standing at the machine twenty-five per cent of the time.

(223) Q. Well, what was the nature of the things that you were doing that occupied this 25 per cent of your time? A. Let's say that expediting was probably a major portion of it. The working with maintenance superintendents, electrical superintendents, operating people, purchasing people or working with vendors individually, in order to get a part or to get some better service on supplies or something like that.

Q. But would you be at a location away from the Properzi, for the most part? A. Yes.

Q. Now, you indicated, I think at the meeting of January 8, 1968, that there was a problem on maintenance because you didn't have the blueprints or the drawings for the equipment, is that right? A. What date was that?

Q. January 8, 1968, the meeting that you described where this list was— A. In January '68 we had no blueprints, we had no spare parts list, we had virtually nothing in documented form that we required to eventually run the machine.

Q. Why didn't you have those? A. We asked for them at that time.

Q. Asked whom? (224) A. Mr. Kilburn.

Q. And he hadn't supplied them? Is that your testimony? A. That's correct.

Q. Do you know why? A. Why?

Q. Yes. A. No, I don't know why.

Q. Now, about the parts list and the spare parts, Mr. Briggs, you also indicated that there was a problem in January 1968 because of a lack of those, is that right? A. A lack of spare parts.

Q. And a lack of the spare parts list, I think you said. A. The manufacturer in the case of a machine like this, and I think this was the case in the Properzi, gives you a recommended list of spare parts to buy with the machine.

Now, this recommended spare parts list apparently hadn't been acquired as of yet.

Q. Well, the list hadn't been acquired. A. The parts themselves hadn't been acquired.

Q. Whose responsibility was that? A. I really don't know.

(225) Q. Do you know whether or not Mr. Kilburn had tried to get the spare parts? A. We asked him for the spare parts because you can't maintain a machine if you don't have spare parts to maintain it with.

Q. My question, Mr. Briggs, was do you know whether or not Mr. Kilburn had made any efforts to obtain the spare parts? A. I don't know.

Q. Now, I think you testified, Mr. Briggs, that you used this list, Plaintiff's Exhibit D-141, as a means of a working document to make sure problems were being solved and to keep on top of the problems. Is that a fair summary of your testimony? A. Yes.

(226) Q. I would like to show you, Mr. Briggs, a copy of Defendant's Exhibit D130 for identification, and I ask you if you remember writing that memorandum? A. Yes.

Mr. Hamilton: I offer it in evidence.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D130 received in evidence.)

Q. Now, does this report relate to one of the follow-up meetings that you were testifying about on your direct examination, Mr. Briggs? A. Yes.

Q. Now, I know that the initial paragraph there, you indicate that most of the items have been resolved on that original list, except as noted below, isn't that correct? A. Yes.

Q. So there were a number of open items, some two months later, is that right? A. That's right.

Q. As reflected here in the memorandum? A. But compared to what we started out with, these were a small number; that's correct.

Q. Was Mr. Kilburn still complaining about slow maintenance at this time, do you recall? A. I think Charlie always complained about slow (227) maintenance.

Q. Would you look at the last paragraph of the exhibit, next to the last paragraph of the exhibit. A. Yes.

Q. Was Mr. Kilburn at this meeting? A. He got a copy of the memo. I assume so.

Q. You don't really—well, you will know the first line of the memorandum, Mr. Briggs, indicates that Mr. Kilburn was there. A. Okay, sure.

Q. Do you recall what his complaint was at this point in time about the sluggish maintenance pace? A. The crux of what sluggish maintenance pace means is that this is—

Q. Let me just interrupt you just a second, Mr. Briggs. I am asking for Mr. Kilburn's complaint at this meeting about the sluggish maintenance pace. If you are responding to that, fine, go right ahead. A. In a plant, when you have a priority system, everybody says that their project is an emergency. Now the problem is, when is an emergency an emergency, a real one? And sometimes the maintenance man has to play God a little bit because he's dealing with a hundred or 200 people who all have very private emergencies in their minds, and the (228) problem of when is an

emergency an emergency a real one in an operating plant, and I think that Mr. Kilburn regarded—and his project, his machine—as being a bonafide emergency, everything. And I don't think this is abnormal at all.

I do the same. Except that—and when he didn't get as prompt action as he wanted on all of his projects, he would object to the perhaps sluggish maintenance pace.

But at that time Mr. Kilburn was saying, was still complaining that he wasn't getting the service fast enough.

Q. Do you recall whether or not you did anything following this meeting in order to try to solve Mr. Kilburn's complaint about sluggish maintenance? A. Specifically, yes. I can give you one example. That is the Hunter Flow Control on the machine. Now Charlie was convinced that the darn thing was not going to work, and it was—that was fundamentally his decision, as to whether this other piece of equipment, of the other installation was going to work.

Now, I volunteered to go to the president of the company that made that particular piece of equipment—he was a personal friend of mine—and to see if we couldn't get it resolved at the highest level.

Now, that is the type of a thing that I could do (229) for Charlie in the case of a critical component or a maintenance type item.

Q. Did you do it? A. Did I call Dave Mayers?

Q. Go see him and resolve this Hunter Flow problem? A. I think a day or two after I indicated I would do that to Charlie, the machine—at that point, I was told to delay for a while because there seemed to be a problem of some sort, and I never did call Mr. Mayers.

Q. You are aware of a problem of some sort. I assume the problem was the termination letter that AMAX received from Essex, is that right? A. We had no real indication of that outside of just a very general problem.

Q. What was the problem that you heard about? A. Eventually?

Q. No, the problem you heard about that prevented you going to see the president of Hunter. A. No, calling him.

Q. Or calling him. A. Right.

Just to delay everything for a day or two. There seemed to be some sort of a problem.

Q. What kind of a problem? (230) A. It was never explained to me.

Q. But you didn't do this in any event? A. No.

Q. My other question, Mr. Briggs, was what did you do after this March 8 meeting to solve Mr. Kilburn's complaints about sluggish maintenance, if anything? A. I think the difference in the list of January 1 and March 8 indicates the progress that had been made in terms of debugging and improving the maintenance performance and operating performance on this piece of equipment. We are down to five or six installation and operating points now. I thought we were making pretty good progress, to be honest with you.

Q. So you didn't do anything then, is that what your testimony is? A. Outside of offering specific assistance in the case of the flow control device and that type of thing, right.

Q. What is that type of thing? Did you do anything else? A. Not that I can recall at the moment.

Q. Were you ever advised that the Nichols people were unhappy with the performance of Mr. Li? A. I don't recall.

(231) Q. You don't recall Mr. Raiford ever saying that to you? A. I know that Paul Raiford told me that, upon a couple occasions, that he liked the looks of the crew. He thought that they were hustling very well. He had some nice things to say. I don't recall specifically that he had any derogatory comments about anybody particularly. He might have.

(232) Q. Was Mr. Li part of a crew? A. Mr. Li was the technical assistant on this machine. He was available to Mr. Kilburn, to trouble-shoot, to run down problems, but he was not specifically operating that machine. We had an operating crew under a supervisor to run that machine. Mr. Li was the technical assistant.

Q. Who did the supervisor report to? A. He reported to the general foreman of the cast house, I believe.

Q. Who was Mr. McDonald? A. No, who was Mr. Ageson.

Q. And who would Mr. Ageson report to? A. To the cast house superintendent who was Mr. McDonald.

Q. The favorable comments of Mr. Raiford, made about the crew, did you understand those to include Mr. Li? A. I don't know.

Q. Did Mr. Li have any supervisory responsibility at all insofar as you're concerned, insofar as you know, over the people who were operating the machine? A. As a technical assistant on the machine, if C.K. suggested or made some adjustment to the machine, (233) this would probably be done, but in a linear sense, C.K. could not go up to a man and order him to do it. But he was very well respected in our plant, and he has an accomplishment of accomplishment—he has a background of accomplishment, and C.K. can get things done, and he's a valuable man, in that sense of the word.

Q. Would you consider him a good foreman-type person? A. He wasn't a foreman. He was a technical assistant.

Q. Yes, I understand that.

Would you consider him a good foreman-type person?

Mr. Topkis: What's the relevance? Suppose he's a good pinochle player? He's not a foreman.

Mr. Hamilton: I think the evidence will dispute

his exact role with respect to Properzi. I think he did have supervisory responsibility and did direct the crew.

Q. My question is whether you viewed him to be a capable foreman. A. I know that in Taiwan he ran a whole cast house, as an operating superintendent.

Q. So you did? (234) A. No, I didn't say that.

Q. Well, will you answer my question, then, Mr. Briggs? A. In certain circumstances, I think that C.K. would be a very good operating supervisor.

Q. Do you recall sitting in on a meeting between Mr. Raiford and Mr. Loyer concerning whether or not Mr. Li perhaps should be replaced? A. I don't recall it.

Q. Now I'd like to turn to Defendant's Exhibit D-30, Mr. Briggs, which is your tabulation on costs.

* * *

(235) Q. On the first page, Mr. Briggs, I want you to look at the first line in the table which indicates the cost of molten metal, boron treated, I presume. A. Yes.

Q. What are the elements of the cost of molten metal? A. Your pot line metal, as it's tapped from the pot, which was—I don't know—15.2 at that time. You have a boron addition, which amounts to a few tenths of a mil, and I believe I have the right decimal, and you have what we would call handling molten metal loss.

Q. How is that molten metal cost determined? Does the price of bauxite, for example, have anything to do with the cost of your molten metal? A. Of course.

Q. What was the cost of bauxite in 1968, do you remember? A. I really don't remember.

(236) Q. Do you remember how many tons of bauxite you needed to produce a ton of aluminum in those days? A. Sure.

Q. How many? A. One ton—we at that time were using 1.97 tons of alumina.

Q. Now, where were you getting your bauxite? A. I said alumina.

Mr. Topkis: There is confusion here. We didn't have any bauxite. Bauxite was in Australia. We had alumina.

Q. Did the cost of bauxite have anything to do with the calculation of that figure, .15769? A. The cost of alumina did, which is a refined product coming from bauxite.

Q. Who did the refining to make the alumina? Did you do that or was that done by an outside vendor? A. It was done in Australia.

Q. By whom? A. By either Queensland Alumina Company or Alcoa.

Q. Now, how has the cost of alumina varied over the years, Mr. Briggs? Was it fixed over the period 1968 to 1972? A. No, of course it wasn't fixed. But we were (237) under a twenty-year contract.

Q. I didn't ask you that, Mr. Briggs.

Was your contract price fixed? A. No.

Q. Now, did the freight—did you have a freight cost in connection with getting your bauxite to the Intalco plant? A. Did we have a freight cost?

Q. Yes.

Mr. Topkis: We didn't get bauxite to the Intalco plant.

Q. All right. Did you get alumina to your Intalco plant, Mr. Briggs? A. Yes.

Q. Was there a freight cost incurred in that? A. Yes.

Q. How much was it? A. Two or three dollars a ton.

Q. Did this remain stable over the period 1968 to 1972? A. From year to year, alumina and alumina freight costs were not stable. In any given year, your price was fairly stable.

(238) Q. But they would differ in 1972 from what it was in 1968? A. It would be higher.

Q. Much higher? A. Right.

Q. Would this 1.5769 figure which shows on the front of Exhibit D-30, would that likewise have been higher in 1972 than in 1968? A. Yes.

Q. Now, Mr. Briggs, would you turn to the third page of this exhibit, which I believe you testified was in your handwriting; is that correct? A. That's correct.

Q. Now, you have got down there wage rates for operators, two different wage rates for operators, and you've also got wage rates for the supervisors, or salaries for the supervisors.

Have there been any increases in wage rates or in the salaries of such supervisors during the period '68 to '72 at Intalco? A. Yes, there have.

Q. Can you give me the approximate proportion of increase that's taken place over that period of time? A. Oh, five or six per cent a year, perhaps.

(239) Q. Now, you indicated that you assumed that six operators were assigned to the machine, is that right? A. If memory recalls me, six was the standard in the sense that that was the acceptance manning for the machine. I obviously—yes. That was—

Q. You had four down here and you believe that to be a mathematical error or just a typographical error? A. I'm not sure if it was an arithmetic or a typographical error, because I did use six operators, and at that time I don't think that we were at the six men on the machine as a standard—

Q. Did you know what the crew would be once the machine was "operating normally"? A. We believed that it would be six; I mean at least at that time.

Q. Had you ever at Intalco had any experience in operating the Properzi prior to the installation of this partic-

ılar machine? A. The half-owner of Intalco, Pechiney, has been operating Properzis for many years and we had the advantage of Pechiney. The largest Properzi they had was a Properzi No. 7 Model. But we had the advantage of Pechiney's technical input on Properzis. They were quite experienced.

(240) Q. Did you use their expertise in calculating the costs here? A. No.

Q. And did they have a representative? Did Pechiney have a representative at Intalco in connection with the operation of this particular machine? A. The plant manager.

Q. Who was that? A. Mr. Philip Thaure.

Q. Is it your testimony that he had some connection with the operation of this particular Properzi? A. On a direct basis?

Q. Yes. A. All the people who worked in the Properzi ultimately reported to Mr. Thaure. He was the plant manager.

Q. Do you know whether he spent any time at all at the side of the Properzi, Mr. Briggs? A. Oh, I'm sure he spent some time down there. How much, I don't know.

Q. But, in any event, you didn't contact Pechiney or him insofar as your calculations here? A. Insofar as the calculations?

Q. Yes. A. No.

(241) Q. And you yourself had never had any experience with the operation of the Properzi once the operation was normal? A. If there were eight people standing at the Properzi making that machine run, and I know how much they get per hour, I think I can figure out the hourly cost for those people.

Q. I bet you can, too, Mr. Briggs.

My question is whether you have any financial background whatsoever—

Mr. Hamilton: Withdrawn.

Q. My question is whether or not when you prepared this handwritten tabulation you had any direct information about what costs would be when a Properzi was operating normally. A. Insofar as—this is my—the best analysis or an analysis of how I would interpret the cost of a normally operated Properzi.

Q. But you had no experience to base that on? A. Of a specific Properzi?

Q. Correct. A. Well, perhaps, but the technique is a well-known one.

Q. Your "perhaps" is "yes," you didn't have any (242) experience? A. In terms of—

The Court: Mr. Hamilton, do I misunderstand the facts here? I believe I read in the trial briefs that this was the first machine of its kind.

Mr. Hamilton: Yes, ma'am.

The Court: Here in the United States.

Mr. Hamilton: Well, there were three, your Honor, and they came almost simultaneously. Alcoa, General Cable, and this one here. The Essex was the first one but they arrived in the United States for installation and set up practically simultaneously.

The Court: I see.

Q. Now, Mr. Briggs, in calculating the numbers that appear on this handwritten tabulation, did you rely or use any financial information relating to a Model 7 Properzi or a Model 6 Properzi? A. No, I didn't, no.

Q. Now, I notice, Mr. Briggs, on this handwritten tabulation, that you have here other payroll costs (benefits) 23 per cent. Is that 23 per cent still the right number today? A. No, it's higher now.

Q. It's higher? (243) A. Yes.

Q. What about your power costs, Mr. Briggs? Has the power cost for the plant at Intalco varied over the period 1968 to 1972? A. Not significantly.

Q. What do you mean, "significantly"? How much has it varied, percentagewise? A. Really not at all, because our power contract has been constant through 19—and will be through December of 1974.

Q. I see.

How about your gas costs? Have they varied? A. Not up until last year.

Q. So, over the period of '68 to '72, they didn't vary? A. Slightly, perhaps.

Q. Slightly, higher? A. Yes.

Q. And water. You have an item here for the cost of water. What was the water used for in the Properzi? Do you know, Mr. Briggs? A. Probably for the emulsions, but I'm not—I would have to defer to the—

Q. The experts on the Properzi? (244) A. —the technical people.

Q. Now, Mr. Briggs, you said down here, you have an item here, operating supplies and maintenance, and you said in response to Mr. Topkis' questions that you thought that this was a reasonable estimate of your operating supplies and maintenance for the Properzi when it was operating normally.

Isn't that correct? A. Yes.

(245) Q. What did you base that on? A. I probably based it upon just taking the five or six key operating supplies, perhaps spouts, marinite, this type of thing, oils, emulsions, and this—traditionally in an operation such as a cast house, if you get five or six of the key operating supplies, that amounts to maybe 80, 90 per cent of your dollars, and then you add another ten per cent or so for gloves and brooms and the incidental expendables, and I probably handled it in a similar fashion in this case, although I really don't remember specifically.

Q. Do you recall whether or not you made any check of the operations at Alcoa or the operations at General Cable as to what their expenses were running in connection with the operation of their Properzi? A. I didn't, no.

Q. Did you ever check that out with Alcoa or General Cable in making your calculations? A. No.

Q. Did you try to find out what the costs were that were being incurred in connection with operating and maintenance at any lesser Properzi, such as a model 7 or a model 6 or a model 5? A. I don't think so. In terms of the dollars, at any rate.

(246) Q. Now, Mr. Briggs, the next item there which is under the initial part of the table is allocated "cast house direct costs."

What was the purpose of allocating these cast house direct costs to the Properzi? A. I don't recall specifically, but normally there are accepted rules that you would follow. Perhaps investment. We might have, say, $10,000,000 or $8,000,000 invested in the cast house. Your homogenizing cost center might have X dollars, the saws another set of dollars, and the Properzis another set of dollars, in terms of installation costs. That might be one method.

Another method might be allocate the cast house supplies, or services on the basis of pounds produced or even labor. It was treated in the same fashion as the other cost centers.

Q. But you have no recollection at all of how it was done here? A. I don't, no.

Q. Could it have been done on the basis of floor space? A. It might have been, but I don't think so.

Q. Is that an accepted method to you? A. For supplies?

Q. No. For the cast house service and the cast (247) house generally. A. No, I don't think so. That would be

an acceptable thing for something like heat or floor sweeping services or something like that. The allocation basis has to be, or should be, associated with the dollars in the service being provided. I don't think I would have used floor space.

Q. How would the dollars and services be provided, the amount of that be related to the investment in the particular piece of equipment. Does it automatically follow that the services required is proportional to the investment in the pieces of equipment? A. Not necessarily.

Q. So, if you had done it that way that might be perhaps be an inappropriate way of doing it? A. It might be, but there would be a question of materiality here. You could do it any way and come up with no more than a nickel or a dime difference. In terms of what we are talking about here it doesn't mean anything.

Q. Now, go back to the first page, if you would, please, of Exhibit D30, Mr. Briggs. I have some questions concerning the remaining items there. Tell me again what shipping cost was, please. A. Okay. The shipping cost, as—for the entire (248) cast house would be dunnage for the rail cars. It would be strapping. It would be to some extent the people driving two motors or fork lifts to move the material on to the rail car or the bulkhead car, depending on what kinds of car you used.

So it would be the two motors, labor, supplies to secure the load in the car in which it was going to be shipped.

Q. Now, have these costs varied over the period 1968 to 1972? A. Yes.

Q. How much, approximately? A. I don't know how much. All I know is that it is—is that the cost of lumber has increased for example, as has labor.

Q. Now, the last item is rent allocation to the cast house. How did you make that allocation, Mr. Briggs?

A. I'm not quite sure, in the sense that I believe I took the total plant investment, for example, and I divided that into the cast house investment, so that this would give you a percent of the administrative and the so-called rent charges. That would—that would appear, at least to my mind, to be an acceptable way of allocating that cost.

(249) Q. Don't you think rent should have something to do with the amount of space that's occupied? A. No. I think rent is a function of your basic metal going out the door.

Q. Now, the next item there—

Mr. Topkis: I think the witness didn't finish.

Q. I am sorry. A. Every pound that went out the door carried an equal rent charge, for example. Properzi as well as any other piece of aluminum.

Q. Now, would you look down through the handwriting under the line "total", Mr. Briggs. Would you read that handwriting for me, if you can. A. I don't have it on my copy.

Q. I'm sorry. A. Yes. 16154 T-ingot. That says T-ingot. I can read that.

Q. There's a little scribble before the T and a little scribble after the T ingot, which you can't read. A. That's right.

Q. You interpret that to be the cost of a T-ingot? 16154? A. That's right.

Q. And what's that based on. (250) A. The same calculations as we have done for the Properzi was done for every other item we have including the T-ingots. Now, that's our simplest product, our base product.

Q. What's the source of that 16154? A. The same form, if you will, as this.

Q. How do you know that, Mr. Briggs. You don't even know who put that on there, do you? A. I recognize the cost, or the approximate cost.

Q. It's a ballpark number. Is that what you are telling me. A. The 16554?

Q. Yes. A. It isn't even a ballpark number.

Q. It's the exact number for May of 1968 for the cost of nine bars. A. If you add the 16154 to the 00869 you come up with the total cost of the Properzi.

Q. Do you know whether or not, Mr. Briggs, in May of 1968 what the cost of T-ingots were at Intalco? A. I think it was 16154.

Q. You think so, but your basis of that is as it appears on this piece of paper, is that right? A. Yes, yes.

(251) Q. Has that changed over the years? A. Yes.

Q. In which direction has it changed? A. It's gone higher like everything else.

* * *

Redirect examination by Mr. Topkis:

Q. Mr. Briggs, does the book price of alumina ingot tend to vary with changes in the price of alumina? A. I think it's a factor in the increase in the book price, yes.

Q. Fairly direct correlation? A. Well, there would be, because the cost of alumina is approximately 1/6th of the cost of your total alumina, so it should be a major factor, as a matter of fact.

* * *

(253) (Plaintiff's Exhibit P-103 received in evidence.)

Mr. Topkis: The plaintiff would call C. K. Li.

C. K. Li, for Plaintiff—Direct

C. K. LI, called as a witness by the plaintiff, being first duly sworn, testified as follows:

Direct examination by Mr. Topkis:

Q. Mr. Li, where were you educated, sir? A. I went to school in Hong Kong until the Japanese took over, in 1941. Then I finished my high school in Mainland China, the southern part. Then I go to northern (254) China and got my Bachelor of Science degree in metallurgical engineering.

Q. Where did you get that degree in metallurgical engineering? A. The university is called Chiao Tung.

Q. And when did you receive your degree? A. 1948.

Q. Did you go on to any other education? A. When I came to the United States in 1973.

Q. When, sir? A. 1963. Excuse me.—I went to the University of Illinois and got my Master of Science in metallurgical engineering, in 1965.

Q. Did you do any further graduate work? A. No.

Q. Did you write a thesis in connection with your master's degree at Illinois? A. Yes.

Q. What was the subject? A. It was on the surface phenomena of a single crystal of zinc.

Q. Now, between 1948, when you got your Bachelor's degree, and 1963, when you came to the United States, what did you do, Mr. Li? (255) A. After I got my Bachelor, in 1948, I went to Taiwan to join the Taiwan Aluminum Company and worked in that company ever—until I left, in '63.

Q. So you were with the Taiwan Aluminum Company for 15 years? A. Right.

Q. Would you tell us, please, what your jobs were with the Taiwan Aluminum Company? A. First, I worked in the anode paste plant. In that plant we use a solder anode,

and we used the anode paste. And then I worked in the pot line and also worked in the cast house. We called it foundry.

Q. Foundry, right? A. And the last job I had in that company was section chief, in charge of the foundry, which is equivalent to the superintendent here.

Q. And was that foundry, in terms of its basic principles, similar to the cast house at Intalco? A. Yes. We made pigs, rolling slabs and billets.

Q. Billets? A. Only on a smaller scale.

Q. But by the same techniques? A. Right.

Q. While you were studying for your master's degree (256) at the University of Illinois, between '63 and '65, were you employed? A. I was employed in the University as a research assistant.

Q. Working with a professor? A. Right.

Q. In what field? A. In my thesis research, as I just mentioned.

Q. And in 1965, you got your degree, and what did you do then? A. Then I joined the Intalco Aluminum Company—Corporation, I mean.

Q. Did you go out there looking for a job, or did they recruit you on the campus or what? A. Well, I know Mr. Loyer when I worked in the Intalco Aluminum Company, and we usually exchanged Christmas cards, and that year that I sent him a Christmas card, in '63, or '64, and he approached me in San Francisco and asked me, "Why don't you come over and see if you can work for us?"

Q. So you did? A. And so I did.

Q. Would you please tell us what your jobs were? For that matter, are you still at Intalco? (257) A. When I first went to Intalco as a project engineer, it was being built by Bechtel Construction Company, and my job was to check the progress.

Q. So you were there while the Intalco plant was actually being built? A. Yes.

Q. And what did you do then? A. And afterwards, I was assigned to the cast house as an assistant to the superintendent.

Q. And who was the cast house superintendent? A. Mr. Max Gilbert.

Q. And what did you do then? A. At that time we have a very small staff, and, as I recall, we always say we only have five people there who have ever seen a cast house, so our job was mainly training people, and one of my main jobs was to learn from the manufacturer of all the equipment how to run the machine and then in turn to train our people.

Q. And you did that with the basic equipment that was going into the Intalco plant; is that right? A. Right.

Q. What did you do then, sir? A. Since my job function is mainly technical, so I always work on the technical side. For example, I (258) developed the standard practice, developed some practice and tackling special projects.

Q. Did there come a time when you were given an assignment in connection with the Properzi machine? A. Yes.

Q. When was that? A. That was in October of '67.

Q. And what was your assignment? A. I was told to go to work on Properzi to learn from the Essex representative how to run the machine.

Q. Had you had any prior experience with a Properzi, Mr. Li? A. No, sir.

Q. And what did you do? A. I don't quite get your question.

Q. Well, you were assigned to work with the Essex representative. I take it that was Mr. Kilburn? A. Yes.

Q. And what did you do with Mr. Kilburn? How did you perform your job of learning how the machine operated? A. We would take whatever instruction that Mr. Kilburn gave us and just perform it. I mean, to coordinate the people, mainly. Whatever he wants, we would try to (259) satisfy him.

Q. And was it your job to develop procedure manuals and such guides to operation? A. Yes. I considered that as one of my jobs. After, we learn and I was supposed to write down procedures so our people could follow.

Q. The idea was to develop standard operating procedures for the machine; is that right? A. That's correct.

Q. And did you go ahead and do that? A. Yes; I did.

Q. Now, I understand that it is claimed by Essex here that there were some times when Mr. Kilburn wanted some maintenance work done on the Properzi, and it was not done speedily enough to his satisfaction. Do you know anything about that? A. Yes. I was aware of it, and, as a matter of fact, I was on the scene myself, so I knew exactly what the situation was.

Q. What was the situation? A. Everybody worked on the machine, including myself. Our own priority is the Properzi, so we would like all the maintenance work done right at the minute, but sometimes we couldn't get there.

(260) Mr. Hamilton: Your Honor, I did not hear the answer. Could we have it read?

The Court: Read the answer.

(Answer read.)

Q. Mr. Li, do you remember a time when Mr. Briggs was given some responsibility in connection with the Properzi? A. Yes.

Q. What happened? A. As far as I can recollect, it was the time when we had the Properzi shut down, due to

mechanical problems. That was in December or November. Then, that time, so everybody was helpless, because we couldn't run the machine from day to day, and that was the time Mr. Kilburn came down and asked the questions.

Q. You were here when Mr. Briggs testified? A. Yes.

Q. You heard him testify about a meeting that took place on January 8, 1968? A. Yes.

Q. You attended that meeting? A. Yes.

Q. Now, prior to this meeting, Mr. Li, did you prepare this document which has been marked—I'm not sure whether it is a plaintiff's exhibit or a defendant's exhibit—

(261) A. Right.

Q. You prepared that? A. Yes.

Q. Now, on this document, Mr. Li, I take it that the document is a recapitulation of the experience with maintenance requests; is that right? A. Yes.

Q. The first maintenance request that I see here at the top of page 2 is dated November 9th; is that right? A. Yes.

Q. Do you remember, was it on or about November 9th that the Properzi machine first began to operate? A. It was November 6th.

Q. And thereafter, from time to time, requests were made for maintenance work on the machine? A. That's correct.

Q. Did Mr. Kilburn make those requests? A. He didn't write the ticket. I wrote, and Mr. Jim Weigand, our foreman at the time.

Q. Jim Weigand; he was the foreman? A. Yes.

Q. What did you do? A. He handed us the list.

(262) Q. And what was done about Mr. Kilburn's maintenance requests? Somebody wrote a ticket for them? A. Yes. We have to write out our own ticket.

Q. Was that your job or Mr. Weigand's A. We both wrote them.

Q. And this Exhibit D-140, I take it, is a recapitulation of what happened with those requests; is that right? A. Yes.

Q. Now, on some of these, Mr. Li, I see that the column "Date Completed" is blank, although the page is headed "Completed". Can you explain that to us? A. The best I can recollect is maybe that work ticket was not filled up by the maintenance people what date they complete. You know, we wrote down the date of each one, but they filled in the date of completion.

Q. It was their job to fill in the date of completion? A. That's the best I can recollect.

Q. But does the fact that there appears a number of hours in the extreme right-hand column indicate that the job was done? A. Yes.

(263) Q. Mr. Li, did you on occasion complain to anyone about the maintenance work that was being done on the Properzi? A. Yes, I did.

Q. To whom did you complain? A. To the superintendent, Mr. McDonald.

Q. Did you consider it your job to complain about maintenance problems? A. Yes, let me say this, I considered it my job to make my superintendent aware of the situation.

Q. You thought that was your job on any project that you were assigned to, is that right? A. That is the way I usually handle my job.

Q. You think of it as your job to complain until your job gets taken care of, is that it? A. When I was assigned to a job, I just want to get the job done.

Q. And when you complained to Mr. McDonald, was anything done about any particular problems that you were complaining about? A. Yes.

Q. What, sir? A. Well, we got the job done.

Q. Mr. Li, I understand that you had an automobile (264) accident early in 1968? A. That's correct.

Q. When was that, do you remember? A. Yes, that was January 20, Saturday, on my way to the plant.

Q. Saturday, January 20. A. It was Saturday, I still remember that. We had some emulsion problem. I wanted to go to the plant to check the emulsion.

Q. You had some problem with the emulsion, you say, Mr. Li, and you were on your way in to work on the Saturday to do what you could about it. A. Right.

Q. And that is when you had your accident? A. The week before, I remember an instance that the emulsion heater was off, we got a very cold emulsion, so I wanted to go to check whether the pump was running, whether the heater was still on, and things like that.

Q. And that is when you had your automobile accident. A. Right.

Q. Just to clarify the record, Mr. Li, what is this emulsion that you use on a Properzi?

What function does it perform? (265) A. That is used in the rolling mill as lubricant and also as a coolant.

Q. And you had an automobile accident, as I understand it, and how long were you hospitalized or, in any event, away from work? A. I was staying in the hospital for two weeks, and the doctor had put a cast on me, and then the third week I started to go back to the plant, just for a few hours.

Q. And did there come a time after that when you were assigned to other duties? A. Yes, April the 5th I believe was my last day on the Properzi.

Q. What new job did you go to? A. I was still having my job, I mean, as assistant.

Q. Assistant to the cast house superintendent, you mean? A. Right. And I moved to the other side of the cast house to work on the standard practice, how to develop the practice of casting billet.

Q. Did someone else take your job over as technical assistant on the Properzi? A. It was Mr. Les Bloedel who took my place.

Q. Mr. Bloedel became foreman of the second shift on the Properzi, did he not? (266) A. That was before April the 5th, I believe sometime in March.

Q. I see. So he had both jobs, is that right, both the job of continuing your work as technical assistant and also taking over on the second shift. A. We did not have a job called technical assistant for Properzi per se.

Q. I see. But that had been your responsibility? A. Yes, I just happened to have that title at that time.

Q. Were your relations with Mr. Kilburn good, would you say? A. We never quarreled.

Q. Did you have any professional disagreements? A. Yes, sometimes.

Q. Can you remember any? A. For one thing I remember, I always suggest to have the angle of the casting wheel reduced.

Q. What was the angle of the casting wheel as the equipment was originally installed? A. Five degree.

Q. And you proposed that it be reduced to some lesser angle? A. Right. We learned from the Nichols people, 12½ (267) for example, 12½ degrees. Now I remember, when the machine was first installed, in the early stage, only after several days, that Mr. Kilburn has installed a bank of rollers, tried to deflect the casting coming out from the wheel, so it can align with the rolling mill, and after several week or several month experience, then my impression is that with big angle, the deflecting of the casting will maximizes in defects that we have of casting, and in studying, running a machine, you try to eliminate all the bad factors, all the bad elements, and I would surely like to have that element eliminated.

Q. Was Mr. Kilburn agreeable? A. He said he wanted to get Nichols people too, I mean, the manufacturer, a written agreement or something, with the manufacturer. That has been brought up in many meetings.

Q. I see. Did there ever come a time when this was done, or was Mr. Kilburn still waiting for a written directive when the machine closed down? A. I can only say that by the time I left, it was not done.

Q. Mr. Li, had you, before you went to work on the Properzi machine, had any, well, had you visited any Nichols' installations to learn anything about a Properzi? (268) A. Yes. I went with Mr. Wiegand and other foremen, Mr. O'Brien, to Nichols Aluminum in September, for three days.

Q. Did any other people from Intalco go to Nichols on the same kind of training program? A. There had been many groups.

Q. And when you went to Nichols, I take it you saw a Properzi in operation there? A. Yes, but of different model.

Q. Which number, do you remember? A. I remember it was a number 7 machine and a number 6 rolling mill, or vice versa.

Mr. Topkis: Mr. Li, I have no further questions. Thank you very much.

Mr. Hamilton: I am sorry, your Honor, I had an exhibit out here I wanted to use. I think I can find it in just a second.

I have it.

I am sorry.

C. K. Li, for Plaintiff—Cross

Cross-examination by Mr. Hamilton:

Q. Mr. Li, do you know what the manufacture recommended as far as the wheel angle is concerned? A. I was told 25 degree.

(269) Q. And this was what Mr. Kilburn installed it at, is that correct? A. That's correct.

Q. Do you know whether the manufacturer ever changed his specifications on the whole angle? A. No.

Q. Do you know whether or not the angle of the wheel affects the operating rate of a machine? A. Technically I think so.

Q. You think it could? A. Yes.

Q. Does it make any difference what kind of rod you are producing? A. Yes.

Q. Does it make any difference in connection with the production of EC rod? A. For EC rod we think it will be less deflective.

The Court: What's an EC rod?

The Witness: That is an electrical conductivity; electrical conductor.

Q. For EC rod—I am not sure I understand your answer, Mr. Li. A. For EC rod, the effect is less critical.

Q. And what were you producing at Intalco on the machine? (270) A. That was EC rod.

Q. That was EC rod? A. Right.

Q. And didn't you conclude that the angle, insofar as the production of EC rod is concerned, didn't make any difference? A. I never said that it did not make any difference.

Q. Well, do you remember concluding that you could produce up to the rated capacity of the machine which was 14,000 pounds per hour on a 25 degree angle? A. I never said that.

Q. Did you ever participate in a meeting in June of 1968, Mr. Li, where you evaluated equipment problems? A. Yes.

Q. Do you remember that meeting? A. Yes, I remember, I wrote something, for EC rod it might be ok, or something like that.

Q. Did you write that? A. Yes, I believe I did.

Q. Was that the general consensus of the Intalco people? A. I cannot say for the whole Intalco people.

Q. Well, let me show you Defendant's Exhibit D 32, Mr. Li.

(271) Is this a copy of a memorandum which followed the meeting that you have been talking about? A. Yes.

Q. And did you participate in that meeting? A. Mr. Macdonald wrote this, not in the meeting, did he?

Q. Well, I am asking you, Mr. Li, whether you participated in the meeting that is described here in this memorandum? A. I cannot recall very specifically about this meeting. I remember the circumstances around that is that Mr. P. Thaure wrote a memo, and then Mr. Macdonald showed me that memo and asked me for comment, so I wrote him a memo.

Q. That is a different document, Mr. Li. Do you recall a time in June of 1968 when a meeting was called by Mr. Loyer, and everyone was requested to evaluate the Properzi equipment; do you remember that meeting? If you don't, let me refresh your recollection. A. Yes, I would appreciate your reminding me.

(Pause.)

(272) Q. Mr. Li, I'd like to show you a copy of a document dated June 5, 1968, which has previously been marked as Defendant's Exhibit D-31, and I ask you if that refreshes your recollection that Mr. Loyer called a meeting in early

June of 1968 to evaluate the Properzi operation. A. That is exactly what I just mentioned, about exchange of correspondence, the memo that Mr. Thaure wrote.

You said it is different case.

Q. That is a different memorandum, I'm sorry.

I didn't mean to confuse you.

Do you recall thereafter participating in a meeting which was attended by Mr. McDonald, Mr. Bloedel and others, to discuss this? A. Frankly, I don't remember exactly, but I figure I might.

Q. Well, let me show you Exhibit D-32, Defendant's Exhibit D-32 in evidence, Mr. Li, and I call your attention to the second page of the exhibit, which is the first page of a memorandum, and indicates that, in the first sentence, "The following areas of agreement were obtained at a meeting of Properzi involved personnel," with an indication that you got a copy of this document.

Do you have any reason that you didn't participate in that meeting? (273) A. No, I have no reason to say that I did not attend it.

Q. You think you did? A. Yes.

Q. Then would you look on the second page of the memorandum, Mr. Li, and read to me the first sentence there under the heading, "Alignment of Casting Machine to Reduction Mill." A. "The present 25 degree angle between casting machine and reduction mill is considered acceptable for EC rod production up to the design capacity of 14,000 pounds per hour."

Q. Would you read the next sentence also? A. "This criteria is based on statements from personnel of Nichols Wire and Aluminum and Intalco has no grounds for disagreement."

Mr. Topkis: Your Honor, just so the record could be clear at this point, could the next two sentences be read?

I could read them on redirect, but it seems more appropriate—

The Court: All right.

Mr. Hamilton: Would you like to read them, Mr. Topkis? I don't have the copy.

(274) Mr. Topkis: Sure.

"Intalco similarly agrees with Nichols personnel that alloy rod production will require the minimum offsetting angle between casting machine and reduction mill. Intalco's opinion is that if AMAX were to take over the Properzi installation that the offsetting angle should be reduced before operation of the equipment."

Thank you.

Q. Were you considering making alloy rod on the equipment, Mr. Li? The EC rod was what you had always made, isn't that correct? A. Yes, so far we only made EC rods.

Q. Were you considering making alloy rod in the future? A. I was in no position to make a decision like that.

Q. Do you remember whether it was considered? A. No. I was put off the job in April.

Q. I'm sorry, I had forgotten that.

Now, Mr. Li, I think you testified that you had no Properzi experience at all before assuming your responsibilities at Intalco with respect to this particular Properzi, is that correct? A. That is correct.

Q. And how soon before assuming your duties at Intalco (275) were you told that you were going to work on the Properzi? A. Approximately one week ago, one week before, I mean.

Q. A week before.

And then what did you do? A. Then I start to work in the area and watch the last stage of installation.

Q. Was this the period of time, Mr. Li, this week, between when you were told you were going to work on the machine and when you really started to work on it, that you went to Nichols for this training session? A. No, sir.

Q. It was later than that? A. Yes. I went to Nichols on September.

Q. I see.

Now, were you told when you went to work on the machine what your relationship was going to be to Mr. Kilburn? A. Going to learn how to run the machine from Mr. Kilburn.

Q. Well, were you told whether or not you were supposed to take care of any complaints that Mr. Kilburn might have? A. No, we didn't mention about any complaint.

(276) Well, suppose Mr. Kilburn had a maintenance problem that he wanted. Was he supposed to go to you or was he supposed to go to the maintenance people or was he supposed to go to the foreman of the machine; what was the chain of command that he was supposed to follow on maintenance problems? A. As a matter of fact, he did complain to me, he did complain to Jim Wiegand and I think he did complain to all levels in Intalco.

Q. Was that your understanding of the way it was supposed to work when you started out? A. I was not told—that was not a definite definition as to who he should go to. At least I had no knowledge that he should tell exactly what people.

Q. Well, wasn't it your understanding, Mr. Li, that Mr. Kilburn was not really to go anywhere, but he was to stay right there at the machine and tell you when he had something that needed to be done, and then you were supposed to take care of it; isn't that correct? A. I would say anything he comes to me, I will be doing my best to get it done.

Q. But wasn't he not supposed to go anywhere else; wasn't he supposed to come specifically to you? A. At that point we have only myself and Jim Wiegand (277) are in supervisory position, so I suppose he either come to me or talk to Jim Wiegand.

Q. Now, you indicated that the machine started up in, when was it, late October or early November of 1967? A. Early November.

Q. And who was present at the start-up of the machine? A. There were the Italian engineers, and Mr. Jim Russell.

Q. How many Italian people were there? A. I have been trying to think—either two or three.

Q. What was their function? A. Oh, they tried to get the machine start. For example, push the button and make sure it responds and things like that.

Q. And what was Mr. Russell's function? A. I believe he represents the Nichols Aluminum.

Q. What did he do at the time of this start-up? A. Oh, he kept himself busy and take a look at that. He is an engineer.

Q. Yes. And was Mr. Kilburn present? A. Yes, Mr. Kilburn was present.

Q. And what did he do during this start-up phase; what was his role, as you can best recollect it? A. I am thinking because when you start up, at start-up (278) time it is always busy, and everybody running around and trying to do this and trying to do that, so it is very hard for me to say exactly what he did at that moment.

Q. How long did this start-up phase last, Mr. Li, when everyone was running around and you were having all these problems? A. Well, first you have to define what is a start-up phase.

Q. Well, I am defining it as you just did, when these people were all running around, and there was a lot of problems.

Mr. Topkis: Nobody said anything about a lot of problems, he said something about a lot of people running around.

Mr. Hamilton: I'm sorry.

A. Will you ask me again?

Q. Yes, Mr. Li, how long did this phase last where everyone was running around? A. We have been running around until the day we stopped the machine.

Q. So it never really ended, is that fair? A. It depends on what you define "running around." The machine had kept everybody busy.

Q. I want to define running around, Mr. Li, in (279) whatever way you used it initially. A. Everybody was busy and doing something.

Q. Yes. How long did that phase last? A. For a long time.

Q. Well, was it finished by the time you had your automobile accident? A. I couldn't draw a line, say at what time that nobody was running around. I am not trying to be—but I don't quite get the meaning of your question, what you are driving at.

Q. I'm sorry.

When did the Italians leave, Mr. Li? A. After two weeks.

Q. And was there any difference in the situation when they left than the situation when they arrived, insofar as operation of the equipment is concerned? A. I remember someone made a remark at that time, "The Italians, they don't know how to make rods, they only make the machine, but they don't know how to make the rods," so—

Q. Did you say rods? A. Make the rods, yes, the Properzi rod.

Q. That is the casting that comes off the wheel? A. Yes. So anyway, we didn't have any production by (280) the time they left.

Q. No production by the time they left.

Had you tried to produce by the time they left? A. It was mainly testing out . machine for that first two weeks.

Q. Do you remember when the first casting was made from the wheel? A. I cannot remember exact date. Bu we did ship some rods in early December or—

(281) Q. So by early December the equipment was functioning; is that fair to say? A. The rods. We make rods, but the rod has too high tensile strength.

Q. What was the matter with that? What caused the high tensile strength, Mr. Li? A. I remember after Mr. Paul Raiford came and told us what to do, we started to get the tensile strength down.

Q. Now, were you having any other problems with the machine at this time? A. Yes.

Q. What were those? A. One of them was that the steel belt, the steel belt was too thin.

Q. Is that the belt that goes around the wheel that holds the metal into the mold? A. Yes.

Q. And how long did that situation last? A. I cannot recall exactly how long, but Mr. Kilburn and his assistant, Mr. Kittsmiller, furnished a belt.

Q. Did that solve that problem? A. For that particular problem, yes.

Q. Now, what other problems did you encounter in the early phase of the operation, Mr. Li? (282) A. The spout, casting spouts. We were using steel casting spouts, and they lasted about two hours or so, the best. So we were looking for a better spout, and at that time we got one ceramic spout, and with that first one we ran—I remember we ran seven hours non-stop with that particular spout.

Q. Did that solve the spout problem? A. No. And later on we used ceramic spouts, we had lots of problems.

Q. Did that solve it, the use of ceramic spouts later on, solve the spout problem? A. No.

Q. Isn't it a fact that the spout problem was never solved? A. No. Never solved.

Q. It was never solved. Now, what other equipment problem did you have, Mr. Li, at this early phase? Did you have a problem with the mold? A. Yes.

Q. Will you describe for her Honor what the problem you had with the mold was? A. The mold, when we first got it from the Italians, was something of a cross section like that (indicating), and let's say is not a solid one, so when a casting came up (283) with the mold, it bent, as I said, because the 25 degrees, so it refracts very much, and it pulled the mold to one side, so we got non-uniform cooling.

Q. Was this a problem of the mold structure itself? A. I would say so.

Q. And what was done to try to correct that situation? A. And later on, the Nichols people proposed and designed a newer mold, of a solid section, a solid section.

Q. A solid section. And when was that? Do you remember? A. I can't recall exactly.

Q. Did that solve the mold problem? A. It worked much better.

Q. Isn't it a fact, Mr. Li, that at the end you still had a serious mold problem with the equipment? A. Off and on we had problems. For example, I remember one instance, the casting, we had a pretty good run one day. The second day we had bad castings, and found that the mold had a bad spot. Every time the casting hit that spot, we got a crack in that place.

Q. Do you know whether or not Mr. Kilburn was using the molds that were specified by the equipment manufacturer? A. I can't say that, because I never see the (284) specification.

Q. Well, do you know whether or not he used the molds that were recommended by the Nichols Aluminum people? A. I would say I only can presume that, because, as I say, I have never seen that.

Q. Now, you mentioned the cooling problem, Mr. Li, a second ago, in connection with this mold under discussion. Do you know how the Model 8 Properzi was supposed to cool—what is the piece of metal that comes out of the mold? A. That's the casting.

Q. —the casting. Do you know how the Model 8, what cooling apparatus was supposed to be working on the Model 8 caster?

Do you understand my question, Mr. Li, or have I— A. Well, it becomes more and more technical, so I have to be careful.

Q. Well, let me ask you this: do you know—are you familiar with the difference between a Model 7 Properzi and a Model 8 Properzi? A. Yes. It looks entirely different.

Q. Was there a difference in the cooling feature on the two machines? A. Yes.

Q. As far as the caster is concerned? (285) A. Yes. Number 8 is supposed, I think, to need more cooling.

Q. Was the Number 8 supposed to have a special apparatus that was known as the secondary cooling, a special way of doing it? A. Yes. I have heard of it.

Q. Did the Model 8 Properzi have this secondary cooling as it was installed at Intalco? A. No.

Q. Are you sure? A. The best as I recollect.

Q. Do you know whether or not the secondary cooling apparatus ever functioned?

Mr. Hamilton: Withdrawn.

Q. Is it your understanding that the Model 8 Properzi was supposed to have a secondary cooling feature? A. I think I had heard it from Mr. Kilburn or something like that.

Q. Do you know whether or not it ever did have a secondary cooling feature? A. As I said, I only heard it from Mr. Kilburn.

Q. But the machine at Intalco never did; is that correct? A. That's right.

(286) Q. Mr. Li, did you ever hear any complaints from the Nichols representatives about the supervision that was being exercised on the Properzi operation? A. No. They never said anything to me.

Q. Were you present when the coiler was being installed? A. Yes.

Q. When was that? A. The coiler—

Q. Was it after you came back from your automobile accident? A. Yes.

Q. And if I suggested it was in kind of late March, 1968, would that sound about right? A. I would have to check my records. I wrote weekly reports, so it must be in the report.

Q. Do you remember experiencing any difficulties when the coiler was being installed? A. Yes.

Q. Do you know a Mr. Fox of Nichols Aluminum? A. Yes.

Q. Was he there when the coiler was being installed? A. Yes.

Q. Do you recall him complaining to you about lack of (287) supervision of the crew? A. No. He never complained to me.

* * *

(289) Q. Well, Mr. Li, do you recall when the coiler was being installed that a motor burned out that drove a

pump that was circulating the oil? A. I am trying to remember, but I cannot remember.

Q. Was Mr. Fox there when the coiler was being installed? A. Yes. He came with another gentleman from O.T.T., but he deal with Mr. Kilburn and not me.

Q. You don't recall him having conversations with you at all? A. Very, very few.

Q. Do you recall the problem when the coiler was being installed with respect to the pump at all? A. No. I cannot recall at this instant.

Q. Now, Mr. Li, I want to look for just a moment at your tabulation of maintenance delay requests and the action that was taken on them, which I believe is Plaintiff's (290) Exhibit D-140.

Is this in your handwriting, Mr. Li? A. That's correct.

Q. Now, would you tell me what the headings mean under the column which begins "Priority"? A. The first one is "Emergency". The middle one is "Immediate", and this is "Normal".

Q. Normal. Now, was this a rating system that was in force at Intalco at this time? A. That's right.

Q. And who made the decision with respect to whether the priority would be emergency or immediate or normal? A. The one who wrote the request.

Q. And in the case of a Properzi, that was either you of Mr. Weigand; is that right? A. That's right.

Q. Did Mr. Kilburn ever write those? A. I don't believe he did.

Mr. Hamilton: I have nothing else.

Mr. Topkis: We have no redirect, your Honor.

The Court: All right. Thank you. You may come down.

The Witness: Thank you.

(Witness excused.)

Mr. Topkis: Your Honor, at this point the plaintiff (291) calls Mr. Ian Macdonald.

Ian Macdonald, for Plaintiff—Direct

IAN MACDONALD, called as a witness by the plaintiff, being first duly sworn, testified as follows:

Direct examination by Mr. Topkis:

Q. Mr. Macdonald, by whom are you employed, sir? A. Intalco Aluminum Corporation.

Q. And what is your job? A. Assistant to the president.

Q. Would you start from your graduation from high school and trace your education course. A. I graduated from high school in 1943. I graduated from the University of British Columbia in 1951 with a Bachelor of Science in metallurgical engineering. I was employed by the Aluminum Company of Canada in 1951 until March of 1967, at which time I joined the Intalco Aluminum Corporation, where I am today.

Q. I am sorry, sir. The name of the Canadian enterprise with which you were connected escapes me. A. The Aluminum Company of Canada.

Q. Sometimes known as Alcan? A. Alcan.

(292) Q. While you were with Alcan, what were your jobs? A. Over this period of time, they ranged from the installation and start-up of new pot room facilities, supervisory jobs in the pot rooms, supervisory jobs in the pot room support facilities, to the engineering department, the industrial engineering department, and in the last four or four and a half years with Alcan I was working in the cast house.

Q. Where was that? A. Kitimat, British Columbia.

Q. In terms of function and not of scale, is that the same kind of operation that Intalco has? A. The Kitimat plant at the time I left was primarily the same function and almost the same scale as the present Intalco plant: a large plant.

Q. And when you came to Intalco, in what capacity did you come? A. I joined Intalco as the cast house superintendent.

Q. For how long did you hold that position? A. Five and a half years.

Q. Was it then that you became assistant to the president? A. That is correct.

(293) Q. Was that a promotion? A. Yes, sir.

Q. Mr. Macdonald, as long as you have been with Intalco, you have known Mr. Li? A. That is correct.

Q. Who assigned him to be technical assistant on the Properzi? A. I did.

Q. What considerations did you take into account in assigning him to that task? A. Mr. Li had had other assignment on the start-up of new equipment in the cast house on developing operational practices and procedures. He had done more of this work at Intalco before I arrived on the scene, about which I had received good reports, had seen the results, and in my opinion he was the most qualified man we had to send over to observe and learn from the start-up of this equipment.

Q. Did you ask Mr. Li to make regular reports on the operation of the Properzi to you? A. I did.

Q. I will show you Exhibits 156, 157, 158, 159 and 160 and ask you whether these are copies of such reports.

(294) A. Yes. These are copies of the reports.

Mr. Topkis: I will offer them, your Honor, as Plaintiff's Exhibits.

The Court: Any objection?

Mr. Hamilton: No objection. I'm sorry.

(Plaintiff's Exhibits D-156, D-157, D-158, D-159 and D-160 received in evidence.)

Mr. Topkis: Your Honor, I might perhaps say that I don't think there is any need for the court to

take time now to consider these. We offer them on the routinization of the progress report here.

Q. Mr. Macdonald, Mr. Weigand was made foreman of the Properzi crew; is that right? A. That's right.

Q. Who selected him? A. I did.

Q. And on what basis did you make that selection? A. Mr. Weigand had been shift foreman in the cast house operation for some time and immediately prior to this had been promoted to the capacity of assistant general foreman in the cast house, demonstrating our belief that he was the most qualified supervisor that we had in casting. On the basis that he was the strongest and most qualified supervisor in the cast house, he was (295) assigned to supervise the initial crew of the Properzi installation.

Q. There came a time when a Mr. Bloedel was assigned as the second foreman of the Properzi crew; is that right? A. Yes.

Q. Who selected Mr. Bloedel? A. I did.

Q. And on what basis? A. Mr. Bloidel was hired as a graduate engineer from California Polytechnic Institute, I believe, hired to come into the cast house and become familiar with the operation, become a shift foreman and potentially to receive accelerated training and accelerated promotion potential through the cast house.

Again, he had the highest potential of the personnel at the time to move into this type of a job.

(296) Q. Going back for a second, Mr. Macdonald, there is reference somewhere in one of the depositions to somebody having some language communications problem with Mr. Li by reason of his Chinese ancestry. Was that a common experience at Intalco? A. When I first arrived at Intalco, I had a momentary language problem with Mr. Li. I said—I say "momentary", because if you did not give Mr. Li the attention he deserved, it was possible to have a problem.

Apart from that, after two or three days, there was no problem. He had trained the majority of the hourly paid people on the floor into the practices of casting ingot.

Q. He was your ingot casting expert for all practical purposes; is that right? A. That is correct.

Q. How did you select the six men who made up the first crew of the Properzi, Mr. Macdonald? A. The six men of the first crew were chosen in concert with Mr. Li, Mr. Weigand and Mr. Ageson, Mr. Ageson being the general foreman of the cast house, looking for the people who both did a good job and we felt would be adaptable to a new situation. They were chosen as being in the upper quartile of the skilled personnel in the cast house.

(297) Q. Did those six men stay with the Properzi through the time of its operation? A. The original six men assigned to the Properzi were there until the Properzi stopped, with one exception. One man was medically absent, had a medical leave for, I believe, six weeks, maybe eight weeks. He was replaced—As a matter of fact, his replacement headed up the second crew, when we went to two shifts.

Q. You mean Mr. Bloedel? A. As a lead man in the crew.

Q. I see. So on a crew there would be a foreman and a lead man; is that right? A. Yes.

Q. Now, there has been suggestion here, Mr. Macdonald—

Mr. Topkis: Well, hold that for just a second.

Q. What has been Mr. Weigand's subsequent history since the Properzi time? A. Mr. Weigand was promoted to general foreman in the cast house, one of two general foremen in the cast house. I cannot recall the exact date. I suspect it was in 1969.

Q. That is the job he holds today? A. That is the job he holds today.

(298) Q. And how about Mr. Bloedel? Has he been promoted, demoted, fired, what? A. Mr. Bloedel, subsequent to the ceasing of the Properzi operation, worked as a shift foreman at Intalco, was promoted to assistant cast house superintendent at East Alco Corp. in Frederick, Maryland, and is currently the cast house superintendent at East Alco.

Q. Holding a job paralleling your former job? A. That is correct.

Q. Mr. Li, for that matter: has he been promoted, demoted or what, since the Properzi days? A. Mr. Li's job title remains the same. I might suggest his annual income has changed.

Q. Upwards or downwards? A. Upwards.

Q. When Mr. Weigand was made crew foreman, was it, on the Properzi, did he have any other duties? A. No, not at all. None at all.

Q. That was made his sole area of responsibility? A. That was his sole area of responsibility.

Q. Now, when you put these people to work on the Properzi, did you first send them to Nichols, as Mr. Li testified? A. Not the hourly paid personnel. Mr. Li had been (299) to Nichols for two to three days. Mr. Weigand had been to Nichols for two or three days.

Q. Did you go? A. I was at Nichols for two days, I think.

Q. Anyone else? A. Yes. There were other people who went to Nichols.

Q. Mr. Sobjack, Mr. Harvey? A. Yes.

Q. Mr. O'Brien? A. Mr. O'Brien, and a Mr. Aylen.

Q. All of these supervisory personnel whom you thought might be involved with the Properzi; is that correct? A. Correct.

Q. Now, there came a time when Mr. Kilburn arrived on the scene and began supervising the installation of the Properzi? A. Yes, sir.

Q. Did you stay in touch with Mr. Kilburn during the time that he was at Intalco? A. Is your question, sir, addressed in reference to installation or subsequent to?

Q. During the month that he was there, did you stay in touch with him? A. Yes, sir.

(300) Q. The Properzi was installed in the cast house? A. That is correct.

Q. And you were cast house superintendent? A. Correct.

Q. It fell within your general area of responsibility? A. Yes, sir.

Q. And what did you do about exercising such responsibility as you had? A. Well, my total responsibility would embrace the total area of the cast house, including the Properzi matter. In effect, I had a bit of double—a bit of a double organization to the point where we had the normal operating crews, the normal supervision operating the cast house, and we had a second crew on the one shift operating the Properzi machine. So my responsibilities in total were to keep all this equipment operating in producing the products we were scheduled to make on orders from our owners.

Q. Did you regularly inspect the operation of the Properzi? A. Yes, sir.

Q. How frequently? A. To the best of my recollection, I would say, if I knew the machine was not down for some specific reason, I saw the machine on a daily basis, possibly in the morning and in the afternoon.

Q. Incidentally, how big is the cast house at Intalco? A. In width, 150 feet. In length, maybe 800 feet.

Q. Where was your office in reference to the Properzi? A. My office in reference to the Properzi—Well, the Properzi was at one end of the building, and my office, in the office building, was at the extreme other end.

Q. So you had to walk, in effect, a couple of blocks to get to the Properzi? A. In effect, sir, yes.

Q. I gather that there has been a suggestion that Mr. Kilburn occasionally complained about the service he was getting on maintenance. Do you recall any such complaints? A. I do.

Q. What was done about them, or were any of them made to you? A. They were.

Q. Mr. Kilburn would come to you on occasion? A. He would.

Q. How frequently? A. On complaints?

Q. Yes, sir. (302) A. On an irregular, infrequent basis. It could be once a week or not on a week or possibly three times a week. There was no specific—he did not visit me daily on a maintenance complaint.

Q. You saw him daily, though, on other matters? A. When Mr. Kilburn was there on the site and I was on the site, I expect we had some form of communication almost every day.

Q. Would you say that relations between you were good? A. Yes; I would say so.

Q. Now, when Mr. Kilburn did, on these occasions, complain to you about maintenance problems, what did you do, if anything? A. It would depend on the nature of the complaint, but my immediate reaction would be to dig further into his complaint and, if justified, do what I can, do what I could to alleviate his situation, which sometimes the situtation was rectified, sometimes to his satisfaction, and sometimes it was not rectified.

(303) Q. If you could categorize them, was there any particular reason why sometimes the complaints were not rectified? A. There would be times when Mr. Kilburn would have a complaint that a job, he could not get this work done in time, and on checking into it, I would have to agree with the decision that was made, that the jobs that took

precedence over Mr. Kilburn's request were more important, either in what was presently down, out of service in the cast house, or what was presently demanding prior attention in the plant. There were times that we had to suggest to Mr. Kilburn and help schedule with Mr. Kilburn that a job might have to be performed outside the plant.

Q. There were service facilities outside the plant? A. There were local shops, machine shops, welding shops. It was not possible in every instance to give Mr. Kilburn the service that he would have liked to have had.

Q. Does Intalco itself on occasion send jobs out to outside shops? A. On a fairly regular basis.

Q. Would you say, Mr. Macdonald, that Mr. Kilburn (304) got a lower or a higher priority than average, so far as the across-the-board maintenance situation in Intalco was concerned? A. At the outset, at the November 6th, November 7th date, Mr. Kilburn's service in terms of the cast house maintenance crew, he got a slightly higher than normal reaction within the cast house crew; wherein the cast house maintenance foreman had the problem of assessing where the Properzi machine fitted into his total maintenance demand. This, of course, would depend on the time of day and what else he had.

At the outset, the Properzi machine probably received a normal, or did receive a normal service in the central shops of the plant, which at times was not immediate.

As time went on into and subsequent to the January 8th meeting, the priority in terms of in plant services applied to the Properzi was significantly above normal in relation to other operating pieces of equipment in the cast house.

Q. So, putting it casually, at no time would it be fair to say was the Properzi a stepchild? A. I don't feel that the Properzi was the country cousin that received neglect at any time.

(305) Q. And from January 8th on, it became the prodigal son? A. It was the prodigal son or the sickest child. It got the most.

Q. Mr. Alf Loney was assigned to the Properzi at some point, is that right? A. That is correct.

Q. Who was Mr. Loney? A. Mr. Loney carried the title of master mechanic in the plant, based on his—the great wealth of mechanical maintenance experience he had. He was assigned to assist in all areas of the plant in their most difficult maintenance problems.

Q. And he was assigned to the Properzi? A. He was assigned to provide whatever assistance he could on problems, mechanical problems at the Properzi where we were not making a rapid improvement or success on a job.

Q. Who assigned him? A. I think this came out of discussions with myself, Mr. Briggs and the maintenance superintendent.

Q. Incidentally, Mr. Macdonald, there came a time when Mr. Li was reassigned, sometime in April, I think you just testified. (306) A. That is right.

Q. Who took him off the Properzi and assigned him to other duties? A. I did.

Q. For what reason? A. It was a compromise in some respects into the total work that was there to be done. What Mr. Li could gain on the Properzi in improving or gaining further technical knowledge into the operation of the Properzi at that time, there wasn't a large scope of information he was going to continue to accumulate from Mr. Kilburn. Mr. Wiegand had obtained a good deal of working knowledge. Mr. Bloedel was showing some aptitude. And there was a large backlog of duties in the rest of the cast house which required Mr. Li's attention, so I made the decision at that time that the Properzi could proceed without Mr. Li and he would fulfill a better func-

tion back solving some problems in casting different forms of ingot.

Mr. Topkis: May I just have a moment, please. (Pause.)

Q. Mr. Macdonald, there was some inquiry this morning by Mr. Hamilton about some delay in getting, I think the term was, marinite, for the Properzi. (307) A. I recall the inquiry.

Q. Is there any particular explanation of why marinite was not available to Mr. Kilburn when he wanted it? A. I don't recall the immediate instance, but it's quite possible that we at Intalco had no marinite in stock because, as is still the case, the marinite used in Intalco is all purchased in fabricated form.

Q. Not in form available for use on a machine such as Properzi, is that right? A. I beg your pardon?

Q. I say, not in form for use on a machine such as the Properzi? A. No.

Q. So if you wanted some for the Properzi, you'd have to send out for it, and if the corner store was out, you'd have to send a little farther? A. If we wanted a piece—a sheet of unfabricated marinite, it would have to be purchased.

Q. What is marinite? A. It's a compressed board of—I think, of largely asbestos fibers and binders which has insulating values, is not wettable by molten aluminum, so it's extremely useful as a liner in launders or troughs (308) which transport molten aluminum, various devices in the flow control of molten aluminum.

Q. Mr. Macdonald, while the efforts were being made at Intalco to make the Properzi machine installed there work satisfactorily, did you lend your full cooperation to those efforts? A. Yes, sir.

Q. Nothing less than full cooperation? A. No, sir.

Q. To your knowledge, did anyone under your supervision lend any less than full cooperation to those efforts? A. Could you repeat the question to make sure I don't give the wrong answer? I'm not quite sure.

Q. I appreciate the dangers of the double negative. What I'm driving at is this: Did anybody at Intalco work on this project with less than a full heart and a whole heart? A. No.

Q. You were all dedicated to it? A. The crew at the cast house were largely from a background of farming, fishing, logging, and they had come into a cast house, which was a brand-new ball game to them, was a little short at that time of total casting (309) capacity, and they learned a great deal in a very short time, and had done an extremely creditable job, and they were proud of it, and I got as many complaints from my people on the machine as I got from Mr. Kilburn. They were getting upset and frustrated because they had so many difficulties in getting the results that they hoped for.

Mr. Topkis: I have no further questions. Thank you.

The Court: All right. At this time we will take a fifteen-minute recess.

(Recess.)

(310) *Cross-examination by Mr. Hamilton*:

Q. Mr. Macdonald, you testified I think at some length about the manner in which you selected people to work on the Properzi and the qualifications that you looked for. Do you recall that? A. I do.

Q. Did you consider endeavoring to hire someone who had prior experience in the operation of a Properzi machine? A. I did not.

Q. Didn't you think that would facilitate a smooth operation? A. It might have crossed my mind, but we had started numerous pieces of other equipment with people with little or no experience, with a good measure of success.

Q. Do you know a Mr. Paul Hoboi? A. Yes; I do.

Q. Who is Mr. Paul Hoboi? A. I believe Mr. Hoboi heads up the AMAX technical services, aluminum technical services group.

Q. I show you a copy, Mr. Macdonald, of a memorandum which has been marked Exhibit D-121, which is (311) a memorandum from Mr. Hoboi to Mr. Kaufmann and a Mr. Walker and Mr. Briggs, who testified previously, and I ask you if you have any recollection of seeing that memorandum in late 1967, when you were going about staffing the Properzi operation. A. I have no immediate recollection of this. I may have, but I cannot specifically recall having seen it.

Q. Were you ever advised that Mr. Hoboi had recommended that AMAX would be well advised to find metallurgical talent with experience on this equipment? A. No; I was not advised of that.

Q. Did you ever look into the fact of whether or not there were any people available who had experience on the earlier models of Properzi equipment? A. No; I did not.

* * *

(312) Mr. Hoboi was who, again?

Mr. Hamilton: He is with AMAX, was with AMAX, was he not?

The Witness: He is a technical man with AMAX Aluminum.

Mr. Hamilton: I am referring to the section on the very last page of the memorandum, your Honor. I think it is the very last paragraph of the memorandum.

The Court: Now, this memo, Mr. Hamilton, is dated July 26, 1967.

Mr. Hamilton: Yes, ma'am.

The Court: That is why I was asking you earlier whether my understanding of the facts is correct, and that is that this particular machine in this plant was the first of its kind. You said three arrived simultaneously.

(313) Mr. Hamilton: Yes. I asked him if prior experience on the earlier model Properzi—This was the first Model 8 that our people had here, or it was one of the first three, but there were Model 7-s and 7-s and 5-s and so forth, which are, as I think Mr. Kilburn will testify, smaller versions of the same machine.

The Court: That I understood, too, but I thought that this machine was different from those, in that this machine was the first machine to produce the three-eighths rod.

Mr. Hamilton: They all produced rod.

The Court: How is this machine different?

Mr. Hamilton: It's bigger. The wheel is different. The cooling system was different. The capacity is much different. The capacity of this machine was rated, as you know, at 14,000. I think a Number 7 machine, the capacity was rated at 9,000, something in that general area. It's a bigger machine, different design, but it essentially does the same function, I.E., convert molten metal into rod.

The Court: Three-eighths rod?

Mr. Hamilton: Yes.

The Court: All right.

By Mr. Hamilton:

Q. As far as you know, Mr. Macdonald, did anyone (314) assigned by Intalco to work on the Properzi at Ferndale have any experience whatsoever on a previous model Properzi? A. As far as I know, they did not.

Q. Now, I think you testified, Mr. Macdonald, that this was a new plant at Ferndale. Is that correct?—in the fall of 1967? A. Yes.

Q. And I think you testified that your office was approximately two blocks from the Properzi operation. A. That is right.

Q. Do you recall how far the office for mechanical maintenance was from the Properzi? A. The office for the foreman of the cast house mechanical maintenance was possibly 200 feet.

Q. What about the other types of maintenance, other than the mechanical maintenance? A. The office of the foreman for electrical maintenance in the cast house was right next door to the mechanical maintenance.

Q. And why was your office two blocks away, Mr. Macdonald? A. Because that is the way the plant was built.

Q. Why was the Properzi placed in this particular location in the plant? Was there any reason that you know (315) of? A. I can only surmise that when the decision was made to place the Properzi in the Intalco plant at the cast house, the building had to be expanded. It could only be expanded in one direction.

Q. Now, you indicated, I believe, on your examination by Mr. Topkis that at the early stages of the Properzi operation you thought that it got a slightly higher than normal degree of service insofar as maintenance is concerned; is that right? A. That is correct.

Q. And that higher than normal is what is reflected, then, in Exhibit D-140; is that correct? A. That is correct.

Ian Macdonald, for Plaintiff—Cross

Q. Were you experiencing a lot of maintenance problems, Mr. Macdonald, in the fall of 1967, throughout the plant?

Mr. Topkis: Fall of '67?
Mr. Hamilton: Yes.

A. "A lot" is a relative term, Mr. Hamilton. I am not quite sure. Relative to what?

Q. Well, relative, let's say, to a year later. A. I could really only surmise that it was possible that the frequency of maintenance demand in '67 might have (316) higher than in '68. That would have to be an opinion.

Q. At this time, in the fall of 1967, weren't there many operations in the cast house that were in a start-up situation or in the stages of very early operation? A. Not particularly. In the fall of '67 and through '68, new equipment was being installed in the cast house. The equipment was operating, had been operating for approximately two years.

Q. Did you have complaints about the maintenance delays from other operations in the cast house? A. Yes.

Q. Was it a fairly chronic problem in the fall of 1967? A. I would say that it is fairly chronic that most operating people complain about maintenance. Whether that is a problem is a matter of opinion.

Q. Well, it is fair to say that you were having more of a problem with complaints on maintenance delays in the fall of 1967 than you were six months thereafter? A. I can't say it is fair or unfair. I can't really respond to that question.

Q. Now, when, Mr. Macdonald, was this new man assigned to the Properzi for mechanical maintenance—Mr. Loney, I think his name is? Do you recall when that was? (317) A. To the best of my recollection, Mr. Loney was

assigned to that machine subsequent to the meeting of January the 8th, 1968.

Q. Do you have any recollection, Mr. Macdonald, how much subsequent? If I suggested that it was in May, would that conform to your recollection? A. No.

Q. You believe it was earlier than that? A. I recollect that. I could be wrong.

Q. Just to set that date a little firmly in the record, Mr. Macdonald, I would like to show you a copy of Exhibit D-150 for identification. Do you recognize that handwriting? A. I do.

Q. Is that Mr. Briggs' handwriting? A. That is.

Q. Do you see the date here, at the bottom of that exhibit, May 1968? A. Correct.

(318) Q. Do you remember attending a meeting with Mr. Morris and Mr. Raiford in early May or very late April of 1968? A. Yes, I do.

Q. And do you recall whether or not Mr. Loney was assigned to the Properzi after that meeting? A. Mr. Loney was assigned after one of the meetings discussing the Properzi. My recollection is it was after the January meeting. It may have been after this meeting, if you have evidence to indicate that.

Q. I only have the testimony of Mr. Briggs on this subject, Mr. Macdonald.

Mr. Hamilton: Page 68, Mr. Topkis.

Q. In which he testified in connection with this exhibit that "Mr. Alf Loney is the master mechanic of the plant, the most skilled maintenance man we have. Louis De Marco was an electrical foreman. These two men were to be assigned to the machine full time to make sure that no maintenance item was not in the hands of the best man we had in the plant,"—referring in connection with this exhibit, that they were to be assigned.

Do you have any reason to dispute that testimony, Mr. Macdonald? A. No reason at all.

(319) Q. Now, Mr. Macdonald, would you describe for me the chain of command for maintenance requests in the cast house?

Who sat on the top of the pyramid and how did it go down to the Properzi operation? A. The ongoing maintenance services within the cast house were supervised by a maintenance foreman assigned to the cast house as a maintenance area.

He had a maintenance crew of personnel who worked on day shift and a crew who worked around the clock on rotating shifts.

He would have received requests, written requests, from work tickets originated by shift supervision within the cast house.

Work requests that he received was the work which would be beyond his capability, inasmuch that it would have to go to the central shops or outside.

He would forward through to those other maintenance areas.

Q. Who filled out these little tickets that requested the priority of maintenance on a particular job? A. The supervisor who originated the ticket.

Q. And who was the supervisor that would originate the tickets in connection with the Properzi operation? A. More often than not Jim Weigand. At times (320) Mr. Li. Generally speaking, whomever had received the request from Mr. Kilburn.

Q. Now, who would make the decision as to whether or not a particular maintenance request was entitled to the urgent or normal indication that was put on the ticket? A. The maintenance foreman had the problem of marshalling his limited resources—I say limited, he only had so many men, he obviously could not do every job if it was

all classed as an emergency basis. He would use his discretion based on knowledge of the area.

If in doubt, he would inquire or could inquire further of the general foreman in the area, the superintendent in the area, or to his own superior.

Q. Now, Mr. Macdonald, who had the responsibility on the Properzi, for taking care of operating problems as they arose? A. For example, if a spout cracked, or something happened in the mill, whose responsibility was it to solve that? A. If a spout cracked, the machine would be stopped. The spout would have to be replaced. Subsequent to the first week or two, that would be handled by the operating crew under the supervision of the foreman present.

Another type of problem which they had not (321) experienced, and was beyond their accumulated knowledge to that point, the people involved would have gone to Mr. Kilburn for advice.

Q. Well, suppose Mr. Kilburn needed some assistance from someone else in Intalco, such as in a maintenance case, but rather than maintenance, it is now a small operating problem case.

In that instance who would Mr. Kilburn go to to arrange for this assistance? A. Mr. Hamilton, would you define an operating problem? Is this operating problem a problem of maintenance?

Q. No, it is a problem of a breakdown. For example, when you had a cobble in the mill, and it needed to be cleaned out, or something happened that stopped production, and Mr. Kilburn needed more labor or more assistance, who was the man he should see to see that this was taken care of? A. He would go in his normal channel through Mr. Wiegand or Mi. Li when we were on one shop. Failing satisfaction there, Charlie had complete freedom to go to the maintenance foreman, to the maintenance superintendent.

Mr. Kilburn was not restricted in who he could contact to require or request further assistance.

Q. There was no restriction on who he could endeavor (322) to obtain further assistance from.

Q. I am trying to find out who he was supposed to contact, if he went through normal channels? A. Normally, he would go to the maintenance foreman. If the maintenance foreman would throw up his hand and say, "There's just no way I can provide further assistance,"—

Q. Now, I think you indicated during your testimony, Mr. Macdonald, that you received complaints from your own crew about the way the equipment was operating, is that right? A. Yes.

Q. Was this the only piece of equipment in the cast house that was really not functioning in a normal way in approximately December, January, 1967, 1968? A. To the best of my recollection, yes.

Q. And was that black mark on your record a source of frustration to you? A. I don't recall it in that sense, no.

Q. You were not concerned about it? A. I was concerned. I wasn't concerned about a black mark on my record at the time.

Q. I'm sorry. I meant to say, was the fact that this was the only non-functioning piece of equipment, was that a concern to you as the man in charge of the cast house? A. Absolutely.

(323) Q. Now, what types of operating problems did you have with the equipment at this time, speaking now essentially of January, 1968, Mr. Macdonald? A. By January, 1968, we had still had not received a satisfactory ring mold wheel.

Q. A rigmarole—A. Ring mold wheel.

Q. Oh, ring mold wheel. Excuse me. Now, did you—

Mr. Topkis: The witness hasn't finished.

A. We had achieved some satisfactory results with a ceramic spout, but we had results which we could not duplicate satisfactorily. We had problems with the quality of the casting beyond a certain speed. Those were the major problems that I recall. We had minor problems, where some of the equipment all of a sudden, something didn't work on Tuesday that operated on Monday. But those were the major three categories of operational problems that existed still.

Q. Let me focus for a second, Mr. Macdonald, on the third category of those: the quality of the casting when you went above a certain speed. Do you know what the cause of that quality problem was? A. We were not able to obtain satisfactory—sufficient, satisfactory cooling on the casting.

(324) Q. And the quality problem that resulted was a hole in the casting, was it not? A. That was one.

Q. What other kind of quality problems would result from this inability to cool the casting? A. You could also get surface cracking or checking, which would result in a break in the mill.

Q. And what happens to the mill, Mr. Macdonald, when you run a casting through it which has these characteristics? A. Your rod will break eventually.

Q. And can that cause what is called a cobble? A. It can.

Q. Would you tell the court what a cobble is? A. Your Honor, when you have this casting going through the mill, it gets into a series of reductions so that if you stopped everything and withdrew it, it would look like a flagpole, where it would be increasingly smaller in diameter.

A cobble in effect is this length of aluminum gets jammed inside those 18 mills, and it is just completely tied up and jammed in there. You have to do a certain amount of dismantling to try to remove this. It's just completely plugged up.

(325) Q. Do you remember having cobbles occur at the Intalco plant, Mr. Macdonald, when this machine was functioning? A. I remember cobbles occurring.

Q. Was that caused by this lack of cooling equipment or lack of good cooling? A. That could be a contributory—contributing factor. Every time rod broke—you didn't have a cobble.

Q. I would like to show you, Mr. Macdonald, Defendant's Exhibit 156, and I ask you if this is one of the periodic reports that Mr. Li gave to you in connection with the Properzi operation. A. It is.

Mr. Hamilton: I would like to offer it in evidence.

Mr. Topkis: I think it is already in, Mr. Hamilton.

Mr. Hamilton: I am sorry.

Do you have a copy of it, your Honor?

The Court: What is the number of it?

Mr. Hamilton: 156.

The Court: Yes.

Q. Now, would you read, Mr. Macdonald, the paragraph there that begins, "We also found"—will you read it out loud, please? (326) A. "We also found periodic deformations of the copper casting wheel, the side walls concaved inward and the bottoms convexed up in locations about one inch in front of each cross bracing of the wheel frame. We believe this is caused by the blocking off of spring water by these braces, resulting in hot spots on the

copper wheel. We checked this problem with Nichols Aluminum, and we were informed that all three casting number 8 machines had the same problem."

Q. Now, these hot spots on the copper wheel: is this this lack of cooling that we have been talking about? A. In part, yes.

Q. Tell me, Mr. Macdonald: was this problem with the cooling of the casting ever solved while that Model 8 Properzi was at Intalco? A. Mr. Hamilton, is that a general cooling problem or a specific cooling problem you are referring to?

Q. Well, did it—A. I am only asking for a little assistance, so I can reply to your question.

Q. Did you continue to have a problem with cooling the casting while the Properzi was operating at Intalco, causing a quality problem in the rod that you described for us just a minute ago? (327) A. Beyond a certain production rate we continued to have a cooling problem.

Q. What was that production rate? A. Approximately 11,000 pounds per hour.

Q. Yes. Now, I think the other equipment problem that you observed and one of the others that you mentioned, Mr. Macdonald, was the spout problem. Tell us where the spout is on the Properzi operation, Mr. Macdonald, and the function that it performs. A. The metal leaves the furnace and is transported down a launder to a tundish, which is basically a holding pot. The molten aluminum is fed from the tundish to a mold on the casting wheel through a hole in a vertical spout.

Q. So the spout is a piece of equipment that hot metal pours down through and comes to rest on the casting wheel? A. Correct.

Q. Now, what happens when the spout cracks? A. If the spout cracks, you are going to have a metal leak and spill metal off the casting wheel, and it will stop.

Q. You will stop the whole operation? A. The operator will stop the whole operation.

Q. I am sorry. Was this the problem you were experiencing with the spouts in, let us say, January of 1968, that they cracked? (328) A. Not to my recollection.

Q. Well, what was the spout problem that you were experiencing at this time? A. To my recollection, and I guess in January, the ceramic spouts would aspirate and draw air into the metal, the column of metal, forming oxide, which would give you an oxide skin or scum on the cast surface, which would end up, you would get broken rod.

Q. You would get broken rod. And when you get broken rod, does this, again, cause down time on the equipment? A. Well, eventually you will stop the machine, because broken rod is not a salable product.

Q. What do you do with the broken rod? A. Throw it back in the furnace and remelt it.

Q. Remelt it. Now, Mr. Macdonald, was this problem with the spout that you have described in existence in January of 1968—was this problem ever solved while the machine was at Intalco? A. At the time the operation of the machine ceased, we had not yet received shipments of ceramic spouts of consistently good quality. However, at that time we had ordered spouts of another material as recommended by Nichols, which we felt would solve the problem.

Q. Now, I would like to show you, Mr. Macdonald, (329) Exhibit D-22 in evidence, which is this memorandum that was prepared in June of 1968. Do you remember preparing that memorandum, which is dated June 18, 1968? A. I do.

Q. And would you tell us the circumstances under which you prepared that memorandum? A. If I recall correctly, Mr. Loyer requested a memorandum on the performance of the machine, what we felt would have to be done to the ma-

chine should AMAX entertain the idea of operating the machine by itself.

Q. And this was the memorandum which you prepared in that context; is that correct? A. That is correct.

Q. And did that represent the best judgment of the people involved at or about that time? A. That is correct.

Q. And at that time didn't you conclude, Mr. Macdonald, that the spout problem, the pouring spout problem, was something remaining to be solved? A. That is correct.

Q. In June of 1968? A. That is correct.

Q. And who was in the group? You were in the group of evaluating it. Who else? Do you recall? (330) A. Mr. Lee, Mr. Bloedel, Mr. Weigand, Mr. Gustavson.

Q. Was Mr. Briggs a participant, do you recall? A. I cannot recall if he actively participated in the preparation of that.

Q. Well, did your group also conclude that beyond 11,000 pounds per hour of EC metal "We have not developed a practice which will produce a sound casting"? Was that the conclusion that the group reached? A. That is correct.

Q. And didn't you also conclude that casting beyond this rate produces cracking caused by cooling stresses? A. Correct.

Q. And didn't you also conclude that the absence of cooling water controls will have to be remedied to permit the development of casting practices beyond those established by Essex? A. You are quoting from the memorandum.

Q. Didn't you also conclude that the "art" of emulsion control will remain in the development area? A. Correct.

Q. Will you tell us what was the problem with the emulsion control? (331) A. I can't tell you very much about the emulsion control. The combination of oils in the emulsion had a bearing on the proper degree of cooling

and lubricant in the mill. With the wrong combinations you would cool the rod too fast, or the rod could stick in the mill, and it would get scored, or if you cooled it too fast the rod would be being reduced in cross section at too cold a temperature, which would increase the strength of the rod, and the resultant product would be sound and everything else, but if it was too strong in tensile strength, then it wasn't a good raw material to be reduced further in cross section in wire and cable.

Q. Excuse me. I didn't mean to interrupt you, Mr. Macdonald. Are you finished? A. Yes.

Q. I would like to show you a copy of Exhibit D-165. Isn't this another report from Mr. Bloedel concerning the Properzi operation? A. It is.

Mr. Hamilton: I would like to offer that in evidence.

Mr. Topkis: No objection, your Honor.

(Defendent's Exhibit D-165 received in evidence.)

Q. Now, you will notice that the third paragraph (332) of this document refers to the oil becoming contaminated by the emulsion. Do you remember that problem? A. Not specifically. Not this specific instance.

Q. Do you remember that there was a problem of contaminating the oil with the emulsion that periodically occurred? A. I personally don't really recollect that as a problem.

Q. The next paragraph, Mr. Macdonald, says, "A shipment of seven 22 millimeter and three 25 millimeter spouts arrived Friday afternoon and will be used the first of next week. The main problem that continues to disrupt production is the spout."

Is that your recollection of the facts in May of 1968? A. As I recall and as I have stated, we never did receive spouts of consistently good quality.

Q. Now, Mr. Macdonald, there came a time when Essex sent a contractor in to remove the Properzi. Do you recall that? A. I recall that.

Q. Would you tell me what you can recall about that incident? First of all, tell me how you first heard that that was going to happen. (333) A. When I first heard that the contractor was going to arrive?

Q. Yes. A. By the time I knew a contractor was going to arrive, I was informed he was going to arrive. There was no problem—

Q. There was no problem. Who told you that there was no problem? A. By the time I was told the contractor would arrive, I had previously been informed to permit a contractor to arrive.

Q. I understand. Now, who told you that you were to permit a contractor to come into the plant and remove the Properzi? A. Specifically, I can't recall. I would suggest either Mr. Ferrie or Mr. Loyer.

Q. And prior to that conversation with Mr. Ferrie or Mr. Loyer, had you been told by Mr. Ferrie or Mr. Loyer or had you been told by anyone not to permit anyone to come into the plant and touch the Properzi? A. Yes.

Q. Do you recall why either Mr. Ferrie or Mr. Loyer told you they had changed their minds? A. No.

(334) Q. Do you recall anything about that last conversation when Mr. Ferrie or Mr. Loyer told you that it was all right for the contractor to come in and remove the Properzi? A. It was inferred in the conversation when I was told it was all right to permit, that the instructions had been transmitted from outside of Intalco.

(335) Q. From AMAX? A. I didn't inquire.

Q. In any event, you did permit the contractor to come in and remove the Properzi? A. Oh, yes.

Q. How long did it take, do you remember? A. I would guess the contractor probably had people in that plant for the better part of three weeks.

Q. Three weeks did you say? A. Three weeks.

Q. Have you ever operated a Properzi since June of 1968, Mr. Macdonald? A. No, sir.

Q. Have you ever been associated with one at all? A. No, sir.

Q. Do you know, Mr. Macdonald, whether it is possible to operate a Model 8 Properzi, two shifts a day, eight hours in each shift, five days a week, 52 weeks a year? A. I don't see why not.

The Court: The question is do you know?
The Witness: I don't know.

Q. Isn't it your best judgment, Mr. Macdonald, after all the years you have spent in the aluminum (336) industry, that you inevitably have down time on equipment of this kind? A. If you operate a Properzi or any other machine eight hours a shift, two shifts a day, five days a week, which is 80 hours, you will not have 80 hours of operational time.

Q. There will be down time in there when the machine is not producing, isn't that correct? A. Yes.

Mr. Hamilton: Nothing else, your Honor.
Mr. Topkis: Just a few questions, if I may.

Redirect examination
Examination by Mr. Topkis:

Q. Mr. Macdonald, do you happen to know how many Properzi Model No. 8's are operating today around the world? A. No, I don't.

Q. Would the figure 30 refresh your recollection? A. I recall that there are seven or eight operating within the

continental United States. I am not aware of the number operating elsewhere.

Q. Mr. Hamilton asked you a moment ago whether there wouldn't inevitably be some down time if you operated or attempted to operate a machine two shifts a (337) day, five days a week, 52 weeks a year, and you answered, yes, there would be some down time.

Do you recall that testimony? A. That's right.

Q. I suppose you were going there on the basis of logic and experience with machines? A. That is correct.

Q. All machines malfunction from time to time, not being perfect, is that it? A. That is correct.

Q. You have never heard that the No. 8 Properzi is more given to malfunction than any other piece of sophisticated equipment? A. I haven't heard that, no.

Q. Indeed, have you heard the contrary, that it is an extremely successful piece of machinery? A. I have reports that at the current time the No. 8 has produced extremely well.

Q. In Exhibit D-32 which you were shown a few minutes ago, Mr. Macdonald, do you remember that was that report of yours that Mr. Loyer transmitted to Mr. Clough? A. I recall that sir, yes.

Q. In that document you reported to Mr. Loyer,

> "The pouring spout problem remains to be resolved," but you then went on to say, "it is expected, based on the experience of others, that oxidized titanium spouts will provide a solution, such that previously mentioned one-shift capacity will be maintained."

Do you remember that language? A. I remember that.

Q. That was your understanding and expectation at that time? A. That was my expectation at that time.

Ian Macdonald, for Plaintiff—Redirect

Q. You had been told that other users of the Model 8 Properzi had solved the pouring spout problem by using oxidized titanium spouts? A. The oxidized titanium spouts were recommended by Nichols.

Q. And Mr. Hamilton similarly called to your attention this language in your report:

> "Beyond 11,000 pounds per hour of EC metal we have not developed a practice which will produce a sound casting. Casting beyond this rate (2.3 rpm casting wheel) produces cracking caused by cooling stress."

Do you remember his calling that language to your attention? (339) A. Yes, sir.

Q. He did not call to your attention the following language:

> "The addition of C.U."—that is copper?
>
> A. Yes.
>
> Q. "* * * and grain refiners to the EC furnace batch, as recommended by Nichols Wire to resolve cracking was not attempted before closure of Properzi operations."

Had Nichols recommended the addition of copper and grain refiners to solve the cooling problem? A. Yes, sir.

Q. And had Nichols told you that they would solve the cooling problem? A. Yes, sir.

Q. Mr. Hamilton asked you whether you contemplated somebody experienced with Properzi production to work on your Properzi machine; do you remember that question? A. Yes.

Q. You were looking to Mr. Kilburn as a man experienced with the Properzi machine to teach you how to work one, weren't you? A. That is correct.

Mr. Topkis: No further questions.

(340) Thank you, Mr. Macdonald.

Mr. Hamilton: I only have a couple more, then, Mr. Macdonald.

Recross examination by Mr. Hamilton:

Q. Do you know whether or not the oxidized titanium spouts in fact did solve the spout problem? A. They didn't solve the spout problem at Intalco because we never tried them.

Q. Do you have any knowledge as to whether they solved the spout problem anywhere else? A. Only through the recommendations of Mr. Raiford of Nichols. That was the source of my information.

Q. You don't have any knowledge, Mr. Macdonald, as to whether any of the Model 8 Properzi's that are functioning today use titanium spouts? A. Not that I can recall, no.

Q. Now, you said that you thought you did recall, did you say seven Model 8's that were operating in this country today? A. I think that is the number that I am aware of.

Q. Do you have any knowledge about the changes that have been made on those machines in order to make them operate (341) A. Very little. I have some, but very little.

Q. What knowledge do you have? A. Some machines have a changed wheel to mill offset angle. I understand there have been changes in the application and control of cooling water to the casting wheel.

I understand—I recall, I think, that one operator introduces molten metal to the casting mold in a horizontal plane. Those are the—that is the area of changes that I have heard about.

Q. Were any of these modifications or changes, Mr. Macdonald, included in the specifications of original Model 8 Properzi? A. Not that I recall.

Mr. Hamilton: Nothing else.

Mr. Topkis: No further questions.

Thank you, Mr. Macdonald.

(Witness excused.)

Mr. Topkis: If your Honor please, I now have two depositions that we would like to offer. One of them is the deposition of the late Richard H. Publow, formerly employed by Essex. Mr. Publow has died. His deposition was taken on April 11, 1972, and Mr. Hamilton and I have agreed that rather than nitpick, we (342) will submit the entire deposition to your Honor for such reference to it in our proposed findings or whatever, as we may think appropriate.

The Court: Let it be marked as a plaintiff's exhibit.

(Plaintiff's Exhibit P-104 was received in evidence.)

* * *

Mr. Topkis: Very well, your Honor.

Now, in connection with Mr. Publow's deposition, I would like to offer at this time a document authored by him, Plaintiff's Exhibit PX-9, a document headed, "Comparison of Canalco, Alcoa and AMAX Proposals," dated—I'm sorry, it is a document authored by Mr. Seifert—I beg your pardon.

(343) The Court: By Mr. who?

Mr. Topkis: Seifert. It is referred to in the Publow deposition. That is why I am offering it at this time. And it is dated October 27, 1967.

Mr. Hamilton: No objection.

(Plaintiff's PX-9 was received in evidence.)

Colloquy

Mr. Topkis: Now, your Honor, we have the deposition of Thomas D. Kaufmann, taken on November 17, 1970.

Mr. Kaufmann, as has been revealed in the testimony, was formerly an official of AMAX and is now employed and living in London, and because of his absence we offer his deposition. Mr. Hamilton and I have similarly agreed that we will submit the entire deposition to your Honor.

The Court: What is that number?

Mr. Topkis: Plaintiff's P-105.

(Plaintiff's Exhibit P-105 was received in evidence.)

* * *

(373) Mr. Topkis: I just wanted to say this, your Honor: First, we have consulted a number of technical dictionaries to find out what the term, "running in," means as engineers and similar professional people use it. All of the definitions conform precisely to what is your Honor's fair reading of the contract.

For example, in Crispin's Dictionary of Technical Terms, the 11th Revised Edition, 1970, the term "running in" is defined as follows: "The operation or new or repaired machinery or equipment for the detection of faults and to insure smooth free operation of parts before delivery to the purchaser or user."

Or Chambers Technical Dictionary, the Third Edition of 1958, defines "running in" as "running a new engine or machine under light load for some time to allow proper clearances to become established and friction surfaces to be polished."

And Flood & West in their—it's called "Explaining and Pronouncing Dictionary of Scientific

and Technical Words," they say running in an engine means "running an engine gradually slower and faster for some time so its parts may run for a perfect fit."

* * *

(375) Mr. Topkis: Would you like to have copies of these definitions to which I adverted?

The Court: Yes.

Mr. Topkis: I will make them up for the Court (375a) and then I will supply them to the Court.

The Court: All right.

(Recess.)

(376) Mr. Hamilton: Our first witness, your Honor, is Mr. James C. Dunstan.

JAMES C. DUNSTAN, called as a witness by the defendant, having been first duly sworn by the Clerk of the Court, testified as follows:

Direct examination by Mr. Hamilton:

Q. Mr. Dunstan, where did you go to college? A. I went to Yale.

Q. Would you tell us what your degree is and when you got out? A. Engineering degree and I am in the class of '46 but I actually got out at the end of '45.

Q. What did you do upon your graduation from Yale? A. I served in the Navy for a year.

Q. Then what did you do? A. I went to work for General Cable Corporation in Bayonne, New Jersey.

Q. Would you tell us what your duties were in a general way with General Cable? A. Yes. I went through all the steps in production, from foreman to department manager to technical superintendent in a number of plants.

Q. And what were the plants manufacturing, Mr. (377) Dunstan? A. The plants were manufacturing electrical wire and cable and telephone cable.

Q. How long did you remain with General Cable? A. Five years.

Q. What happened at the end of five years? A. I was called in the Korean war and served two years.

Q. Would you tell us about your employment following your service in the Korean war, please? A. Yes. I went to work for Ford in Detroit for two years.

Q. And after that, Mr. Dunstan, where did you go? A. After that I went back to work for General Cable for another five years.

Q. What were your duties at General Cable during that period of time? A. My first job was assistant plant manager in St. Louis, then plant manager in a separate plant in St. Louis, and then plant manager of the Bayonne plant.

Q. During that period of time, Mr. Dunstan, did you have any connection with a Properzi machine? A. Yes. A Properzi was installed in St. Louis and part of my duties as assistant plant manager was to over- (378) see the production.

Q. What model Properzi was that, do you recall? A. A number 5.

Q. What was being made on that Properzi? A. Aluminum rod.

Q. What was your next position, Mr. Dunstan? A. Next position was with Essex International in Marion, Indiana.

Q. When did you first join Essex? A. 1961.

Q. And how long did you stay with Essex? A. Until 1969, September of '69.

Q. And would you describe for her Honor the jobs that you had while you were with Essex and just generally describe your duties in each position? A. Yes. I was an

operating manager, which meant that I controlled on various occasions from four to eight plants, supervising the plant managers.

Then I was made vice president and general manager of the wire and cable division and had that job approximately three years.

Then for approximately the final year and a half I was with the company I was vice president and general manager of the power and communications division.

(379) And that was your final position, Mr. Dunstan? A. Yes.

Q. You said you left Essex in June of 1969?

What did you do when you left—I am sorry, I think you said September 1969. A. September, yes.

Q. What did you do when you left Essex in September 1969? A. I entered the graduate school of business at the University of Virginia with the idea that I would obtain a doctorate in business administration.

Q. Did you in fact obtain a doctorate? A. Yes, I did.

Q. And when did you get your doctorate? A. I got it in January 1973.

Q. Is it in any particular field, Mr. Dunstan? A. Yes. It is a doctorate of business administration and my specialty was finance.

Q. Are you currently employed, Mr. Dunstan? A. Yes, I am currently employed as an associate professor in the graduate school of business at the University of Virginia.

Q. That is a full time position, I presume? A. Yes.

(380) Now, Mr. Dunstan, I think the evidence here has indicated that the contracts in dispute in this case were negotiated during the fall of 1966?

Would you tell me whether you had any part in the negotiation of those contracts? A. Not specifically in the negotiations.

Q. Were you aware that the negotiations were going on? A. Yes, I was, because I was involved in the purchase of metal at the time, and had to be aware of any new sources of aluminum or copper that the company had.

Q. Did there come a time during the fall of 1966 when you had occasion to evaluate the merits of the proposed arrangement with American Metal Climax? A. Yes.

Q. Would you tell us about that occasion, please? A. I had done some analysis but I didn't have all the data, and it indicated to me that the American Metal Climax arrangement was not the best for Essex.

I talked to Mr. Publow and he had some better data than I had and he had done some calculations, and his figures substantiated my thoughts.

Q. What were you contrasting at the time, do you recall, Mr. Dunstan? (380a) A. Yes. We had an arrangement with— it was not an arrangement yet, but we had a proposed arrargement from Conalco to supply us aluminum in some form that would ultimately turn out to be rod.

(381) Q. Who did you report to at this time, Mr. Dunstan? A. I reported to Mr. Paul O'Malley.

Q. And did you take up this evaluation with Mr. O'Malley? A. Yes, we had a meeting in South Bend; O'Malley, Publow and myself, to discuss the two proposals because I felt, and Mr. Publow felt that maybe Mr. O'Malley wasn't aware of all the facts in the case, because it was rather complicated analysis that you had to go through.

Q. So you met with Mr. O'Malley? A. So we met with Mr. O'Malley in South Bend.

Q. What happened at that meeting? A. We went over all the figures and Mr. O'Malley agreed with the figures and said that on a short-term economic basis the contract with AMAX didn't appear to be as good as the contract with Conalco.

However, he said that if Essex is ever going to be a major wire company, they had to have a source of aluminum straight from a pot line, and that American Metal Climax had proposed a joint pot line venture, so that we did not know the whole story and we both had to agree that if we got a joint venture for a pot line, it would be the most economical way to—for Essex in the long term.

Q. The "we" that you are referring to is who? (382)
A. Well, it would be really Paul O'Malley and myself.

Q. I see. A. And Essex in total.

Q. I understand.

Well, I presume that thereafter the contracts were entered into, is that correct? A. Yes, and in fact a clause in the pot line was put in the contract.

Q. The evidence, Mr. Dunstan, has indicated that the Properzi at Intalco was installed during the fall of 1967, a year later.

Did you have anything at all to do with the installation of the Properzi up at Intalco? A. No, I did not.

Q. Did you have any responsibility at this time for the Properzi operation? A. No, I did not.

Q. When did you first have any responsibility with respect to the Properzi at Intalco? A. It was either late November or early December, 1967. There was a change in assignment. The Paducah plant was not operating as efficiently as we thought it should, and this had been Mr. Publow's assignment, and so to (383) relieve him of the responsibility at Bellingham, it was assigned to my division.

Q. And the "it" being the Properzi at Intalco? A. That's correct.

Q. Did Mr. Publow continue to have any responsibility for the Properzi operation subsequent to this point in time? A. No, he did not, because Mr. Kilburn then reported directly to me.

Q. Do you recall what the first thing it was that you did, Mr. Dunstan, in connection with your supervision of the Properzi installation at Intalco? A. I had heard that it was not functioning properly and that is why it had been assigned to my division, to see if we could straighten it out, and I discussed it with Charlie Kilburn and we decided we ought to have a meeting with the people from AMAX and the people from Intalco and try to resolve the problems.

Q. Did you have such a meeting? A. Yes, we had a meeting early in January, 1968.

Q. Do you recall who attended that meeting? A. There were a large number of people that I only met once. Charlie Kilburn and I attended the meeting, and I am pretty certain that Mr. Kaufmann—I am sure Mr. Kaufmann attended the meeting.

(384) Q. Were there other people in attendance as well? A. Yes, there were, oh, maybe ten or fifteen people who came in and out of the meeting.

Q. What was the purpose of this meeting, Mr. Dunstan? A. The purpose was to try to resolve our problems out there, to see what we could do to get the equipment running.

Q. Let me show you, Mr. Dunstan, a copy of Plaintiff's Exhibit D-141 in evidence, which is a long tabulation entitled, "Conditions for Acceptance of Properzi Equipment."

I ask you if you have ever seen that before? A. Yes, I have.

Q. When did you see that for the first time? A. I saw that at this meeting, and it was given to us, Charlie Kilburn and myself, by the people from AMAX.

Q. Mr. Kaufmann. A. Mr. Kaufmann, yes.

Q. Now, the first line of this exhibit, Plaintiff's D-141, reads as follows: "The Properzi will be considered out of

start-up and operating normally when the following four items are satisfied''—then it goes ahead, as you know, and lists a number of items.

(385) What was your interest in getting out of start-up and operating normally. A. Well, we needed a positive, sure supply of aluminum rod, and the way the contract was written, we didn't have any right to any rod until AMAX accepted the equipment, and so, if they didn't accept it, then we didn't have any rod.

There was another purpose, which was that they were billing us all their costs, which I felt were not fair until it was operating at a thing they called ''operating normally.''

Q. Are you aware of the language in the contract referring to running in, Mr. Dunstan? A. Yes.

Q. What was your understanding at that time of the meaning of running in. A. I think running in, in an engineer's idea, means pushing the buttons and making sure the equipment is all aligned. You run in bearings, you run in motors to make sure the equipment is all aligned and sometimes you run it in without even putting a load on it. So running in just means pushing the button, make sure all the equipment is aligned and that everything works properly.

Q. Is equipment, in your experience, Mr. Dunstan, (386) always run in after it's been installed at the location where it is to operate. A. No, most times, when we buy equipment, we would force the factory to run in the equipment so that when we got it there, then we could push the button and we were assured there were no problems.

Q. At this time, January 8, 1968, did the AMAX people and the Intalco people agree with your definition of running in?

Mr. Topkis: Objection, your Honor, unless somebody was asked. I would have no objection to a conversation.

Mr. Hamilton: I am sorry.

Q. Did you discuss at this meeting, Mr. Dunstan, the meaning of "running in?" A. Yes. We had a number of discussions, or I had a number of discussions with Mr. Kaufmann, concerning running in, operating normally. All these terms were very nebulous in the contract, and we never agreed, to my knowledge, on what running in meant, what operating normally meant, all along. I mean even to the end, because the equipment never did run normally, we never really got to the point where we decided what that meant.

Q. I'd like to show you, Mr. Dunstan, a copy of (387) Plaintiff's Exhibit P-12 in evidence, which is a letter from you to Mr. Kaufmann, dated January 22, 1968.

Do you recall sending that letter? A. Yes.

Q. And does that set forth what was agreeable to you as an appropriate definition for "operating normally?" A. Yes; we had to come up with some definitive constraints that would allow us to turn the equipment over to them, and these were the ones I felt that they would agree to.

Q. And this was the proposal that you sent. A. Right.

Q. And do you recall whether or not Mr. Kaufmann accepted the proposal? A. Oh, he sort of hedged on it.

I felt in the long run he may have accepted it but he never did at the time.

Q. Now, at this meeting on January 8, 1966, Mr. Dunstan, do you recall any other discussion? A. Yes. We had a number of discussions about Billett, them selling us other aluminum, plus we had discussions about the costs. I felt that the costs that they were charging us were much too high. And we had some questions on the transfer

price. The transfer price was never (388) established for the run in period, the operating normally period, or any of these things.

There was also a problem that in our pricing our finished wire that the costs that they were charging us seemed high and maybe didn't allow us to be competitive, and we had some discussion about that.

Q. Do you recall any other discussion, Mr. Dunstan, at the meeting? A. Not specifically.

Q. Do you recall any discussion about maintenance? A. Oh, this came in the cost. We had long discussions—the fact that they were charging us too much—we had a long discussion that, not only were they charging us too much, they were giving us their most inefficient people, both in supervision and in maintenance, and that we felt that they had to reassign both their supervision, their direct labor, and their maintenance people, because I felt that this was a very small operation in an extremely large plant, and I felt it was sort of the stepson and was not getting proper attention, and therefore I felt we were not getting the proper cooperation from them to really make the equipment run as quickly as I would like to see it run.

Q. Well, following this meeting, Mr. Dunstan, did Mr. Kilburn continue to report to you as a matter of chain of (389) command at Essex? A. Yes, he did.

Q. And did he, in fact, report to you from time to time? A. Yes, and—

> Mr. Topkis: The question has been answered, I believe, your Honor.

Q. Would you tell us, Mr. Dunstan, to the best of your recollection, what the frequency of the report was from Mr. Kilburn? A. Oh, I would say almost weekly, but we would skip some weeks when I wouldn't talk to him. Either he

would be back in Marion or I would call him to see what was going on.

Q. Were these oral reports or written reports or what, do you remember, Mr. Dunstan? A. I am sure he sent me some written reports, but most of them were oral.

Q. Would you give us the substance of Mr. Kilburn's reports as you can best recollect them?

Mr. Topkis: Objection, your Honor, as hearsay. Mr. Kilburn is going to be a witness here. He can testify as to any facts. This witness can have nothing but Mr. Kilburn's hearsay version of it.

The Court: What do you say, Mr. Hamilton?

(396) Mr. Hamilton: Well, he can receive reports from Mr. Kilburn, your Honor. I believe those reports went into his judgments insofar as actions that he subsequently took, whether true or false, they were at least a basis for his action and I think he's entitled to testify.

The Court: The objection is it is hearsay. I gather the hearsay objection is cured by the fact that Mr. Kilburn will be here.

Mr. Hamilton: He will be here later today, your Honor.

The Court: Overruled.

Q. Do you remember the question, Mr. Dunstan?

Mr. Topkis: Your Honor, it is still hearsay whether Mr. Hamilton is going to be here or not.

The Court: But there is no hearsay objection when the witness is available for cross examination, is there? There is a hearsay objection only when you don't have an opportunity to cross examine the alleged declarant.

Mr. Topkis: That is true, your Honor.

The Court: We will take it subject to his coming, of course.

If he doesn't come, it will be stricken, but Mr. Hamilton says he will be here.

Mr. Topkis: Very well, your Honor.

(391) (Record read.)

A. Yes, we had not succeeded in attaining the production levels that we wanted, and I was pressuring him to get the production levels up, and he gave me a series of reasons why the production levels could not be attained.

There was a number of reasons. The first one was that the wheel, the casting wheel, which is a wheel maybe 6 to 8 feet in diameter, would warp almost immediately after we started casting aluminum. It was a question then whether the cooling system was adequate or whether the wheel was adequate, or what the problems were.

On an occasion after the January 8th meeting, I did go out there to get a report on the site and did see several bent wheels that couldn't function properly. The spouts were also a major problem. The alignment of the wheel with the equipment was considered another problem.

AMAX felt that it was aligned improperly, even though it was aligned in accordance with the drawings and diagrams of Properzi.

So we had three major problems.

Q. Did you consult with Nichols Aluminum with (392) respect to these problems that you had heard about? A. Yes. I talked to Nichols about it, and asked them what they thought they could do to improve the situation; and asked them to give us recommendations of how we could get the machine operating.

Q. Did there come a point in time when you got a response from Nichols to this inquiry? A. Yes. They made a proposal to us, stating what they would do for us, and sending out their crew and try to operate the machine.

Q. I show you, Mr. Dunstan, a copy of Plaintiff's Exhibit P-24 in evidence, which is a letter from Nichols to you, dated May 2, 1968, and I ask you if that is the response from Nichols that you have just referred to. A. Yes, it is.

Q. Upon receipt of that letter, Mr. Dunstan, what did you do? A. Well, to me, this was the crowning blow. We had a guaranteed contract that it would run at 14,000 pounds per hour, and we received this letter, and there were several hedges in the letter that really bothered me.

The first hedge was this concern about when the machine was operating, while operating, that could mean (393) anything. That could mean while operating, while operators were standing there, or it could mean while it was operating, you know, while it was actually casting rod.

If it meant while casting rod, this was not really above and beyond the point we had reached for short spaces of time. Our problem was that the machine broke down constantly, and could not be kept operating, so that we couldn't get any consistent production.

The other problem with it was that we had to insure—and I think you have to understand that we had no control over the people operating this equipment. They were AMAX people. The supervision was AMAX people. We had one person and maybe two, sometimes, engineers, out there. We did not control the operation.

And so this stipulation provided you supply us with adequate metal, which we couldn't control, adequate mechanical and electrical maintenance, which we couldn't control, and both adequate supervisory and hourly personnel, which we could not supply.

Q Have you exhausted your recollection, Mr. Dunstan, as to the considerations that went through your mind when you received this exhibit? A. Well, no, because there was one final (394) consideration which meant that the machine, even under these circumstances, if we gave them

everything they wanted, that the machine was not operating up to specifications, and the specification that was guaranteed was 14,000 pounds per hour, so that this company admitted, in my opinion, that even with all conditions perfect, that they couldn't operate the machine up to specifications.

Q. Did you accept this offer from Nichols, Mr. Dunstan? A. No, this offer is what sort of stimulated us going on, making a decision to take the equipment out.

Q. Do you recall when the decision was made, Mr. Dunstan to take the equipment out? A. Almost immediately, because that letter bothered me so much that I wanted to get on it right away.

Q. Do you recall the circumstances under which this decision was made? A. It was—I had discussions with Mr. O'Malley, and we got in our legal department, in the person of Tom Seifert, and decided that this was what we had to do, and we proceeded to do it.

Q. What was "this" that we had to do, Mr. Dunstan? (395) A. Remove the Properzi and restore the site.

Q. And why did you conclude that this is what you had to do? A. Well, this is what the contract said. It said you have to do it promptly. And we had been trying approximately six months to get it done, and we couldn't.

Q. Do you recall how you advised AMAX of this decision? A. Yes. We sent them a letter, saying that we would take it out.

Q. And is that letter Exhibit P-29, Mr. Dunstan, your letter to American Metal Climax dated May 10, 1968? A. Yes.

Q. Do you recall receiving back from American Metal Climax their letter of May 17th, Exhibit P-31 in evidence? A. Yes.

Q. And did you prepare a response to that letter from American Metal Climax? A. Yes, we did.

Q. And is your response Exhibit P-33, a letter dated May 24, 1968? A. Yes.

Q. Do you recall whether or not you, in turn, (396) received a second letter from American Metal Climax? A. We had discussions. I'm not sure whether we received a second letter.

Q. Let me show you, Mr. Dunstan, Exhibit P-34, which is a letter from American Metal Climax dated May 29th? A. Right.

Q. Having looked at it, you recall receiving it? A. Yes.

Q. I think you said that you had discussions with AMAX.

Do you remember the timing of those discussions that you are talking about, Mr. Dunstan? A. Well, it was after that last letter, and we had a meeting in Detroit, and it was Mr. Furbacher, Mr. O'Malley, Mr. Clough and myself.

Q. Let me back up for just a minute before I go into that meeting, Mr. Dunstan.

I think you testified earlier, in connection with the January 8, 1968 meeting, that there had been some discussion at Intalco concerning the costs that were being charged to the Properzi operation, and particularly to Essex; is that correct? A. Yes, sir. There is nothing in the contract (397) that specifies who would pay during either the run in period of the period to operating normally, or any of these things. And there was no specification on which costs we would pay and which we wouldn't pay.

The major issue that bothered me is that we were getting charged for fixed costs which were costs that they would have had had we not been there with the Properzi.

Q. Well, subsequent to this meeting on January 8, 1968, did you have any further discussions with American Metal Climax on this subject of cost allocation? A. Yes, we did, because I continued to complain about the fact, the way the

costs were figured, and we did send out our number one accountant who does this kind of work, out to Intalco, to try to get an analysis of the costs and get an analysis of how they were allocated.

One of the things that came up in that was that, although the Properzi was supposed to operate for us at somewhere between 15 and 18 million pounds annually, the costs were allocated on the capacity of the machine of 55 million pounds an hour.

Q. You don't mean 55 million pounds an hour. A. A year, I'm sorry, 55 million pounds a year— (398) and so this was like three times the allocation that we should have been given.

Q. Do you recall when you sent your accountant out to Intalco to look into these cost matters, Mr. Dunstan? A. I would guess it was in April.

Q. April of 1968? A. '68, right.

Q. Do you know Mr. Clough of American Metal Climax? A. Yes, I do.

Q. Do you recall when you first met Mr. Clough? A. I think it was at one of our meetings with Mr. Furbacher. I believe it was in Westchester. I'm not positive. We had a meeting with Mr. O'Malley and myself, and I believe Mr. Clough attended that meeting.

Q. And what was the substance of the discussions that took place at this meeting, as you best recollect them, Mr. Dunstan? A. Well, we discussed a number of topics. We discussed specifically the pot line that we were going to get, and there was a proposal that there was a site in Newfoundland for the pot line and that we would make a trip or that Mr. O'Malley and Mr. Furbacher would make a trip to there and look at the site for—

(399) Mr. Topkis: Can we know the date of this meeting, your Honor?

Q. Yes, Mr. Dunstan, can you place that meeting in time to the best of your ability? A. The end of March or early April.

Mr. Topkis: What year?
The Witness: 1968.

Q. Now, go ahead. You were giving us the substance of the discussions that took place at this meeting. A. We discussed our problems out at Intalco. We discussed their sale of billet to us. And we discussed also that—this unfair allocation of costs, and I think it was at that time Mr. Furbacher approved Mr. Funk going out to Intalco to look at the costs.

Q. And Mr. Funk, in fact, went out, I presume? A. Mr. Funk did go out and did analyze the costs and did give me a report on what the costs were.

(400) Q. Now, by the time that these contracts were terminated in May of 1968, Mr. Dunstan, had you resolved with American Metal Climax this dispute about the allocation of costs? A. No.

Q. Now, Mr. Dunstan, let me go back to where I interrupted you. I think you testified that after these four letters were exchanged, you had a meeting with American Metal Climax; is that correct? A. Yes, we had the meeting in Detroit that I mentioned.

Q. Tell me approximately when that meeting was, to the best of your recollection. A. That was in early June.

Q. Who attended? A. That was the one in the General Motors Building.

It was Clough, O'Malley, Furbacher and myself.

Q. Would you give us the substance of the discussions that took place at that meeting? A. We discussed how we could reduce the loss to both companies on the Properzi, and one of the proposals was that we would sell the Properzi to American Metal Climax. We discussed whether it

was more economical (401) for both companies to pull the Properzi out or to sell it to American Metal Climax and leave it there.

Q. At the time of this meeting, Mr. Dunstan, had the Properzi been removed yet? A. No. It was installed and we had shut it down but it was in the condition it had been in before we shut it down.

Q. Do you recall whether any specific proposals were made at this meeting with respect to the purchase or sale of the equipment to American Metal Climax? A. Yes. We made a proposal at what we thought was a reduced figure of, I believe a million four, and said we would sell it to them for a million four, and Mr. Furbacher or Mr. Clough came back with the idea that they would buy it for $850,000.

Q. You say "they came back." Was that at this meeting, or was it later or what? A. I believe it was at that meeting. I believe it was at that meeting, or it was the next day, either one. It was right immediately as a response to that meeting.

Q. Was the matter resolved at this particular time as to whether they would buy it? A. No; I had another discussion, I believe, with (402) Mr. Clough and he turned down our offer. Then we had some discussion about the furnaces because the furnaces—once you tear a furnace down, you tear out the whole lining and it's useless. So there is a great expense in the furnaces, and we discussed trying to sell the furnaces and various parts of the equipment, none of which we could get together on on price.

Q. Did you ever change your offer from a million four, to the best of your recollection? A. To the best of my recollection, I didn't.

Q. Do you recall whether Mr. Clough ever changed his proposal of $850,000, as you recollect it? A. No, I'm pretty sure he didn't because his was based on a smaller Properzi and he had some figures on that.

James C. Dunstan, for Plaintiff—Direct

Q. Now, Mr. Dunstan, I want to show you a copy of Plaintiff's Exhibit P-2 in evidence, which is a letter dated June 7, 1968, from yourself to Nichols Aluminum Company. This is the letter that I essentially read into the record during the argument a few minutes ago.

Do you recall sending that letter to Nichols? A. Yes.

Q. Would you tell us what the circumstances were (403) under which that letter was sent? A. Well, since the machine didn't operate up to specifications, we felt it was Nichols' responsibility and Properzi's and OTT's, and we felt we were sort of in the middle. We couldn't make the AMAX crew do what we wanted, and we couldn't get the equipment people to fix the equipment the way we wanted. So that we were really caught in the middle between both of them. There was nothing we could do.

Since we had that letter of June 2nd, which we have just talked about, which was a proposal by Nichols to run the machine, to me that was definite proof—

Q. You mean May 2nd? A. May 2nd letter, I'm sorry. —was definite proof that they couldn't even run it at their guaranteed speeds. And, therefore, it meant that the equipment was not proper.

Q. And you sent this letter? A. Right.

Q. Do you recall whether you got a response from the Nichols people, Mr. Dunstan? A. Yes, I know we got a response from them. They wanted to have a meeting about it and discuss it.

(404) Q. Did you have a meeting with them? A. Yes. We had a meeting in Chicago at O'Hare Airport.

* * *

(405) Q. Mr. Dunstan, do you recall who attended this meeting at O'Hare? A. Yes. It was Jim Morris of Nichols, Charlie (406) Kilburn and myself and Murphy.

Q. Who was Mr. Murphy? A. He was the fellow from Nichols.

Mr. Topkis: What is the date of this meeting?

Q. Do you know the date of the meeting? A. I do. June 21st.

Q. Look at Exhibit D-273 for identification and tell me when you prepared that exhibit. A. Yes. I would have prepared it immediately after the meeting.

Q. It indicates in the upper left-hand corner June 21st, is that correct? A. That is correct.

Q. And that is your basis for the statement that the meeting was on June 21, 1968? A. Right.

Q. Now, tell me, Mr. Dunstan, to the best of your recollection the substance of the discussions that took place at that meeting, telling us, if you can, who said what and what other people's responses were. A. Well, I know that we complained and said that there was—the equipment didn't run and couldn't run, and that we were going to take it out because of this reason. And unless they had some specific evidence (407) that any equipment—there were two other installations in the country at the time—if they had any specific evidence that either of the other two installations were meeting specifications, that they would have a valid argument.

However, it turned out that in one case they weren't allowed to see the equipment—I believe in both cases they weren't allowed to see the equipment. In one case, the people wouldn't even tell them what they had done to modify the equipment. So that their evidence to me was not sufficient to say that the equipment, you know, could operate.

So then I said that we want our money back.

Q. Do you recall anything else about the meeting, Mr. Dunstan, other than what you have just testified to? A. No.

Q. Do you recall whether or not at this point in time the Properzi had in fact been removed from the Intalco plant? A. No. To my knowledge, it had not.

Q. Do you remember whether that point was discussed at the meeting? A. Yes. As I said before, we said we were going (408) to take it out and we are going to proceed with it and we are going to do it as fast as we can.

Q. Now, does this memorandum, Mr. Dunstan, record, to the best of your knowledge, the substance of the discussions that took place at that meeting? A. Yes.

Mr. Hamilton: I offer it in evidence.

* * *

Q. Would you read that last entry, just to yourself, Mr. Dunstan, after the word "Dunstan," and tell me if that refreshes your recollection as to the status of (409) the removal operation at this particular point in time? A. Yes.

Q. Would you tell us what the status was? A. Yes, that we would proceed with the removal on the following Monday, and this, as I recall, was Thursday or Friday. You can tell by the dates.

Q. I think June 21st the record will indicate is a Thursday.

* * *

Q. Following this meeting on June 21, 1968 at O'Hare, Mr. Dunstan, what then happened? A. Well, Kilburn went out to Intalco and made arrangements to take out the Properzi. He went to see the plant manager or his assistant and told him that he (410) had been given instructions to come out and get a contractor and come in and tear out the Properzi.

Q. And did Mr. Kilburn report to you? A. Yes, he did.

Q. As to what happened? A. Yes, because I was anxious to know if he had any difficulty, and he didn't have any difficulty and he proceeded with the removal.

Q. And what did you then do, Mr. Dunstan? A. Well, then, when we knew that the equipment was going to be removed, we decided that we had to get with Nichols and with the people from Properzi and get them to take the equipment back. This is what we proceeded to do.

* * *

(417) Q. At this point in time, Mr. Dunstan, late June, early July 1968, had you resolved with Mr. Clough the dispute that you previously talked about concerning the allocation of costs? A. No. We had never resolved that, and there were some impending invoices that they had sent us that we had not paid.

Q. I show you, Mr. Dunstan, a copy of Exhibit D-11, which is a letter from Mr. Clough to you dated June 25, 1968, and I ask you if you received that letter? A. Yes.

Q. Does that relate to this controversy over the allocation of costs? A. Yes.

Mr. Hamilton: I would like to offer Exhibit D-11 in evidence.

Mr. Topkis: No objection, your Honor.

(418) (Defendant's Exhibit D-11 is received in evidence.)

Q. Did you respond to Defendant's Exhibit D-11, Mr. Dunstan? A. I think I called him up and asked if we could have a meeting and try to settle it.

Q. Do you recall whether or not you wrote him a letter as well? A. I think I may have written him a letter. I am not sure.

Q. Let me show you, Mr. Dunstan, Plaintiff's Exhibit P-19 in evidence, which is a letter from you to Mr. Clough dated July 5, 1968, and I ask you if you recall sending that letter? A. Yes, I do.

Q. And did that letter set forth your understanding of the dispute on fixed changes that was pending at that time? A. Yes, it did.

* * *

(433) Q. Mr. Dunstan, there has been some talk in this case about the contract that Essex has with Alcoa.

Are you aware of the existence of an agreement between Essex and Alcoa for the purchase of aluminum? A. Yes, I am.

Q. I show you, Mr. Dunstan, Exhibit P-53, which is a letter from Alcoa to Essex, dated December 27, 1967. (434) Is that part of the agreement? A. Yes.

Q. And is Exhibit P-54, which is an agreement signed on December 26, 1967, is that likewise part of the agreement with Alcoa? A. Right.

Q. Did you have any role in the negotiation of those two contracts or those two agreements with Alcoa? A. I sat in on some of the meetings that led up to that agreement.

Q. Do you remember the period of time that these meetings occurred in? A. I'm sure we started, oh, at least two or three months before the contract was signed, because there were a lot of things that had to be worked out in the agreement.

Q. Did Essex' obligation to American Metal Climax, under the two contracts relating to the Properzi, play any role in the negotiation of the Alcoa contract?

Mr. Topkis: I'm not sure I understand the question.

Is the question, was that subject discussed with Alcoa?

Mr. Hamilton: No, it isn't.

(435) Mr. Topkis: Well, then, it seems to me the question calls for the working of the witness' mind or somebody's mind. I don't know quite whose.

It doesn't seem to be likely to produce real evidence.

The Court: Well, the question calls for a conclusion on the part of the witness.

Q. Let me ask you this, Mr. Dunstan: When you were negotiating or participating in the meetings with Alcoa, were you aware of the AMAX contract? A. Yes.

Q. Were you aware of the amounts of aluminum that were to be delivered by American Metal Climax to Essex, pursuant to those contracts? A. Yes.

Q. Was the Alcoa contract intended to be a substitute for that source of aluminum? A. No.

Q. What relationship did it have, if any, to the AMAX contracts? A. We felt we needed the total amount, both from AMAX and Alcoa.

Q. Who took the lead with respect to Essex, Mr. Dunstan, in those negotiations with Alcoa? (436) A. Mr. O'Malley.

Q. Who is responsible, Mr. Dunstan, at Essex for the purchase of metal, or who was in 1967 and 1968? A. I had minor responsibility for some parts of it, but Mr. O'Malley had the overall responsibility because it affected a number of divisions, and not only my division.

Mr. Hamilton: May I have just a moment, your Honor? I mislaid an exhibit here.

The Court: Yes.

(Pause.)

Q. Mr. Dunstan, I'd like to show you a copy of Plaintiff's Exhibit P-71 for identification, which is a memorandum you wrote to Mr. O'Malley on April 8, 1968; isn't that correct? A. Yes, that's correct.

Q. What was the purpose of writing that memorandum, Mr. Dunstan? A. Well, the purpose was to analyze at the time our aluminum commitments, both for the purchase of commitments and commitments to the various divisions for

aluminum; and the purpose was to indicate that we had to —well, it shows here that we had a surplus of 5 million pounds of aluminum, out of 40 million commitment.

(437) Q. This was on April 8, 1968? A. Right.

Q. And it indicates that you had a surplus of aluminum of 5 million pounds out of a 40 million? A. Right.

Q. Now, you sent this memorandum to Mr. O'Malley? A. Right.

Q. Do you recall whether or not he responded in any way? A. Yes. He said, "Don't worry about it, because I believe there are going to be some strikes in the aluminum industry and we're proceeding with our program," which I had known about, "to purchase aluminum extruders."

We were purchasing a series of aluminum extruders. These are companies that take aluminum and extrude windows and doors and things like this.

And so he told me not to worry about it for those two reasons, the strike and he was proceeding with this campaign we had to acquire aluminum extruders.

Q. Tell me a little bit more about this campaign to acquire aluminum extruders, Mr. Dunstan. Would you explain what you mean by that? A. We had over at least a five-year period in our long-range planning decided that the only way Essex (438) could be competitive with aluminum cable was to eventually end up with a pot line; so that we had to have a joint venture with a pot line with somebody, and our campaign, we realized that the competitive position, our competitive position in the market place, until we had gotten pot line metal directly to us, was not very good, and we didn't feel that we could build up our wire capacity to use the quantities of aluminum like a hundred million pounds or 125 million pounds a year in the wire business initially. We felt that if we could buy aluminum fabricators who use a lot of aluminum and who would take very little investment to purchase, that we would end up with a usage of aluminum of the quantities that

would make us eligible to be a pot line partner with somebody. And that was basically the long-range plan, and that's why we're interested in a pot line with AMAX or a pot line with whoever we could get, frankly.

(439) Q. Did you ever reach an agreement on a pot line with anyone, Mr. Dunstan? A. We never have.

Q. Do you recall how many of these extrusion companies were purchased during this period of time, let's say 1967, 1968? A. I know of at least three. I'm sure there were more.

Q. Now, you referred in the memorandum that we were just looking at dated April 8, 1968, to a surplus of aluminum of 5 million pounds. A. Right.

Q. Do you know whether, in fact, you had a surplus of aluminum of 5 million pounds at that time? A. If my note says we had it at that time, I would say we had it at that time. I think that's a projected figure, though. It's not a figure at the time, is it?

Q. Do you recall what your situation was with respect to surplus aluminum, if any, by July of 1968? A. Well, by that time, I believe we purchased another aluminum extruder and it appeared that we were going to be short of aluminum, and there was an Alcoa strike, so we were going to be short of aluminum then.

Q. Do you recall what happened to Essex' aluminum (440) requirements throughout the remainder of 1968; that is, the period subsequent to July of 1968? A. They kept increasing and increasing all along.

* * *

(441) Q. Mr. Dunstan, before the luncheon recess, I was talking with you about Essex Aluminum requirements during the year 1968.

Did you, in the normal course of your duties in 1968, receive memoranda from time to time, from Mr. Murray

on the subject of aluminum requirements and aluminum distribution? A. Yes.

It was a report that was sent, I believe, monthly on our consumption and our stock of aluminum.

Q. Now, Mr. Dunstan, I show you Defendant's Exhibit D-752 and I ask if that is a memorandum of the type which you received on or about July 22, 1968, from Mr. Murray? A. Correct.

Mr. Hamilton: I offer it in evidence.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D-725 received in evidence.)

Q. And Mr. Dunstan, is Exhibit P-64 another such
(442) memoranda from Mr. Murray which you received on or about October 14, 1968? A. Yes.

Mr. Hamilton: I offer P-64 in evidence. I beg your pardon, it is in evidence already.

Q. Mr. Dunstan, I show you a copy of Exhibit P-6, which is a memorandum that you prepared on December 18, 1968, and I ask if that is a memo that you sent to Mr. O'Malley at that time concerning the aluminum requirements of Olex? A. Yes, it is.

Mr. Hamilton: I offer Defendant's P-6 in evidence.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit P-6 received in evidence.)

* * *

(443) *By Mr. Hamilton:*

Q. Now, Mr. Dunstan, I think you testified that you succeeded Mr. Publow in either late November or early

December (444) of 1967, isn't that correct? A. I didn't succeed him.

Q. I'm sorry. I didn't mean to misstate your testimony. What happened at that time? A. At that time, his division had the whole aluminum operation, which included the new Paducah plant, and the Bellingham plant. The division was then because the Paducah plant wasn't operating satisfactorily, Mr. Publow was told to concentrate on that plant and the Bellingham operation would be moved to my division, which at that time was the wire and cable division.

Q. By the Bellingham operation, you mean the Properzi? A. The Properzi at Intalco.

Q. Subsequent to December of 1967, did Mr. Publow have any responsibility at all with respect to that Intalco operation? A. No.

* * *

(445) Mr. Hamilton: Well, your Honor, Mr. Topkis has offered Mr. Publow's deposition testimony, and all I am trying to establish is that he was letting, he had a health problem which was related to alcohol, he subsequently had a serious health problem and died from it, but he was a man that was fired by Mr. Dunstan in or about June of 1968.

(446) Mr. Topkis: There is no dispute about that at all.

Mr. Hamilton: All right. Then I have no further questions on that.

Q. Mr. Dunstan, over the weekend have you had an opportunity to review Plaintiff's Exhibit P-102, which is the calculations shown on the blackboard? A. Yes, I have.

The Court: May I just take a minute to find that.

All right.

Q. Now, in the course of that review, Mr. Dunstan, did you know that the cost assumed in this calculation for the rod was 17 cents a pound? A. Yes.

(447) Q. And that 17 cents a pound is the cost of the rod that was actually delivered to Essex, is that correct?

Mr. Topkis: Well, actually, delivered to Essex?

Mr. Hamilton: Withdrawn. I'm sorry, you're right.

Q. Did you make a calculation of what the actual cost was to Essex of the rod that it received from Intalco? A. Yes, I did.

Mr. Hamilton: Now, your Honor, I had originally planned to have Mr. Dunstan go to the blackboard and illustrate his calculation. In order to do that, he would have to erase that. I tried to turn the blackboard over, but it won't turn over and remain on the stand.

I have made a copy of his calculation and perhaps it would be satisfactory if I gave you and everyone a copy of it and then he can explain it at that point.

The Court: Yes.

(Pause.)

Q. Now, I have marked for identification as your calculation on the actual cost, Mr. Dunstan, Exhibit 726. Is that what you have there? A. Yes, D-726.

(448) Q. Now, will you explain to her Honor the nature of the calculation that is reflected on Exhibit D-726 for identification? A. Yes.

Trying to understand where they would get that 17 cents, I went back and looked at the actual costs of the material that they delivered to us. So we put—and then we had to get some figures of actual shipments. Now, they

had said that they shipped 2 million 1. The figures that I had available and obtained from the invoices are the asterisk on that page, 1,789,925 pounds.

Q. And that is reflected in the first footnote? A. Yes, that is the first asterisk there.

> Mr. Hamilton: Your Honor, I should say that those are based, as pointed out there in the footnote, on Exhibits D-155 to 160 and P-48. Those exhibits will be put in through Mr. Kilburn. I had originally expected Mr. Kilburn to be on ahead of Mr. Dunstan, but they will be offered at least at that time.
>
> The Court: All right.

A. So there was another error that appeared that shows on the board, 106,900. It should have been 2 point 1 from 108, because the contract was six years for 18 million pounds a year, and using their figures, we should have (449) come up with future shipments of a hundred five, nine hundred thousand pounds.

Now, AMAX' total invoices to Essex during the operation of this equipment was $660,000 and that figure is down on the fourth line there. This does not include the cost to Essex of various pieces of equipment that had to be purchased, like we flew a casting wheel over from Italy, and certain things like this, which were not reflected in these costs because they never went to AMAX. This is AMAX' invoices to us.

Q. That 660,678 is the total of the AMAX invoices to Essex? A. That is correct.

Q. That is reflected on Exhibit P-103 in evidence. A. Right. And if we take their figure, which gives us the worst condition for Essex, and we divide the 660,000 by 2,100,000 pounds, which they say was delivered, it indicates that the cost of the aluminum that they gave us was

31½ cents in comparison with the 17 cents that shows on the board over there.

Mr. Topkis: Well, that is comparing apples and oranges, your Honor.

Mr. Hamilton: Do you mind if he finishes his (450) explanation, Mr. Topkis, and then you can cross-examine when I finish, but I do object to him interrupting the witness and his explanation.

Mr. Topkis: Well, your Honor—

The Court: I think that's right, Mr. Topkis. You can cross-examine the witness later.

Mr. Topkis: All right, your Honor.

A. If you look at the figure below, using our own shipments of 1,789,000 pounds, the figure then becomes 36.9 cents per pound that was the cost to Essex of the aluminum delivered from the Properzi while it was operating in Bellingham.

Q. Now, let me make sure I understand this, Mr. Dunstan.

The 31.5 cent figure and the 36.9 cent figure, that is for cost per pound to Essex? A. That's correct.

Q. And that includes the cost of aluminum as well as the cost of converting it into rod? A. That is correct.

Q. All right. Now would you go ahead? A. All right.

Since we had made an agreement that the aluminum cost would be 22.1 cents for this amount that was (451) transferred, we must subtract that, and we get an actual conversion cost of the aluminum that was converted of 9.4 cents, and that is the figure that is (a), next to (a) there.

Then, if we had done that with our figures, it would have been 14.8 cents.

Q. What does that represent, Mr. Dunstan? A. That represents what AMAX billed us for the conversion.

Q. The 22.1 cents which is the T-ingot selling price, now that appears right up here on Exhibit 102, does it not? A. Right, that is the selling price of T-ingot which they charged us for because they said they could have shipped it as T-ingot.

Q. And you subtracted that from the cost to Essex and you say the difference there is the conversion cost of changing aluminum T-ingot into rod? A. Not T-ingot; hot metal.

Q. Hot metal into rod? A. Right. So it could either be, using their figures, 9.4 cents, using the figures that we can substantiate, it would be 14.8 cents.

Q. All right. (452) A. And this relates to the estimated conversion cost that AMAX estimated on the board there of .8 cents, the double-oh 86 dollars shown here, the (b) is the same 8/10ths of a cent shown on the board under T-ingot, less 8/10ths that gave you the 16.2 on the board.

So this was an indication of the actual operating costs at American Metal Climax' plant, Intalco, in Bellingham.

(453) Q. All right.

Now, what conclusion do you draw from that, Mr. Dunstan? A. The conclusion you draw is that it meant, to make those profit figures over there, AMAX was going to have to take steps that reduced their cost from 9 cents a pound conversion to 8/10ths of a cent per pound conversion.

Q. In other words, the actual conversion rate up to this point had been 9.4 cents a pound? A. Right.

Q. And those profits there assumed they could get that down to 0.8 cents a pound? A. Right. Not 0.8 cents, 8/10ths of a cent.

Q. 0.8. A. 0.8.

.08, I thought you said.

Q. Now, did you make any other calculations, Mr. Dunstan, to check the validity of the material reflected on the

blackboard? A. Yes. I wanted to question whether, if they had gotten the Okonite contract as they said, whether they would have lost—in fact, was it impossible to handle the Okonite contract alone.

Q. Just a moment, Mr. Dunstan.

(454) Mr. Hamilton: I would like to offer, your Honor, D-726.

The Court: Any objection?

Mr. Topkis: As a calculation, your Honor, no objection.

(Defendant's Exhibit D-726 received in evidence.)

Q. You started to say, Mr. Dunstan, you had made a calculation relating to the Okonite contract. Is that calculation reflected in Exhibit D-727? A. Yes, it is. I took the Okonite figures here—to get this Okonite figure, I took the AMAX figures that appeared on a letter of May 29th.

Q. That is Exhibit P-30, is that correct, Mr. Dunstan? A. Yes.

Q. Exhibit D-30, rather. A. So, what I did was look at that and, say, they came up with a figure of .17053 cents, which appears as the total on about the fifth line down under 70 per cent. And then go up and analyze the cost, and there is an indication that the molten metal would be the same per pound because that's a variable cost. The machine cost would be a variable cost because of the hours the machine (455) ran. The shipping cost is a variable cost.

The only fixed cost would be the dross recovery cost, which would be a variable cost, and the rent and the plant allocation to the cast house would be a fixed cost. Because AMAX would only have a contract for approximately half as much aluminum in poundage, that fixed cost would still

remain the same. It meant that their fixed cost of .0043 cents would actually double. So that we have to double that cost. This represents the third line on this diagram, on this calculation of .17484 cents, which would have been the increased cost of the Okonite rod provided Essex' contract was lost.

Q. Let me stop you just a minute, Mr. Dunstan. You started with Exhibit D-30, is that correct? A. Yes.

Q. That's the memo from Mr. Briggs to Mr. Clough? A. Right.

Q. And that calculates how Mr. Briggs came up with the figure of 17.0 cents a pound as the cost number, which is reflected also on the blackboard? A. Yes.

Q. You examined the elements of that 17 cent figure and you tried to determine which ones would change (456) if the Essex contract was gone and they only had Okonite; is that correct? A. That's correct. A variable cost is a cost that varies with volume, so that as the volume changes, it changes directly. It's a unit cost per volume, where a fixed cost would be the building, the equipment, which does not change with volume. You have to pay the same amount of taxes, the same depreciation for the fixed cost.

Q. And you said that the only one that would change was the random plant allocation to the cast house, is that correct? A. That's correct.

Q. What did you then do? A. Then I said that they have approximately half as much—actually, they would have more than half as much. I have been sort of giving absolute minimums. They said okay, if they have half as much poundage, then the cost per pound will be twice as much.

Q. That is how you get the 17484 that is shown on the third line of your Exhibit D-727? A. That's correct.

Q. Now, you have that 17484 figure. What did you then do? (457) A. Then I took the Okonite net figure

on the board over there of 25.02 and subtracted the 17484 to get the potential profit of the Okonite contract alone.

Taking that away, I got .0754.

Q. Which is the profit that Okonite would have had of 7.54 cents a pound? A. That's right.

Q. You then what? A. Not Okonite would have had. AMAX would have had, if they had the Okonite contract.

Q. I'm sorry, you're correct. A. Then Okonite, you multiply by their total poundage of 120 million pounds and we come up that the profit on Okonite contract would actually have been 9 million 048 poundage, 9 million and 48 thousand dollars.

Now, using the same calculations they did over there, you must subtract to see the differential of the contract, the T-ingot cost of the 5.9 cents of the 120 million pounds, and that gave us 7 million 080.

Then, because they would have made that profit anyway, the value of the Okonite contract would have been $1,968,000.

Q. This is the value of the Okonite contract, (458) even assuming Essex' contract was out of the picture? A. That's correct.

Q. All right. A. Now, there is one other factor that is not in there. If we had sold them the Properzi, they would have had depreciation on it and they calculated the depreciation on it as part of this exhibit, the second page of Exhibit D-30. They said that the depreciation would be 12 years times a million five hundred thousand dollars. We offered it to them for a million four, so the depreciation would be less. But using their figures of $125,000 a year and the contract would have run 5 years, the depreciation would have been $625,000.

So that they could have made on the Okonite contract without the Essex contract $1,345,000.

Q. $1,343,000. A. I'm sorry, $1,343,000.

Q. What conclusion do you draw from that, Mr. Dunstan? A. I conclude that the business decision not to take the Okonite contract must have been based either on the fact that AMAX didn't believe that they could get their cost down from the 9 cents a pound to the 8/10ths of a cent a pound, or they just didn't figure. There (459) is something wrong with their figures someplace that would allow them to give up $1,343,000 if it was as easy to get as is indicated by these figures.

Q. Did you make a calculation, Mr. Dunstan, as to what the cost was that Essex actually experienced at Boonville for the conversion of hot metal to rod? A. Yes. I had a recollection that our costs initially at Boonville—

Mr. Topkis: Excuse me, your Honor. The witness is not answering the question. He was asked if he made a calculation and now he is telling us about a recollection. If he has a calculation I suppose that would be responsive.

The Court: All right.

Q. Well, Mr. Dunstan, I show you an exhibit which has been marked as Defendant's Exhibit D-128 for identification. Do you have a copy of that in front of you? A. Yes.

Mr. Hamilton: Your Honor, before I forget it, I would like to offer Exhibit D-727 into evidence, which is the calculation we just went through.

Mr. Topkis: Again, as a calculation, your Honor, no objection.

(460) (Defendant's Exhibit D-727 received in evidence.)

Q. Now, Mr. Dunstan, you have in front of you D-728. Would you explain to us what is shown on Exhibit D-728? A. Yes. We went through the same calculations that are on the board there, except we put in the cost, the actual

conversion costs that we had in our operation at Boonville. And these actual costs on this equipment ended up to be 2.64 cents instead of the 8/10ths of a cent.

Q. So if I understand you correctly, Mr. Dunstan, you endeavored to repeat this calculation, but instead of using the 17 cent figure, which is the one that was forecast by Mr. Briggs, you endeavored to use the actual costs at Boonville which Essex experienced?

Am I correct? A. That's correct.

Mr. Topkis: Excuse me, your Honor. Unless and until we have actual proof of that actual cost at Boonville, I suggest that this testimony is incompetent. It's without foundation. There is no testimony at the moment about what Essex' cost at Boonville actually was. I am not sure how relevant it will be anyway, since what we are talking about here is AMAX' cost (461 at Intalco. But saving that for the moment, I can't see how this witness can testify about Essex' cost to Boonville.

Q. Let me ask you this, Mr. Dunstan:

When did you leave Essex? A. September of 1969.

Q. Was the Boonville plant in operation at that time? A. Yes, it was.

Q. Was it under your jurisdiction? A. Yes, it was.

Q. Are you aware of what the costs were being experienced at Boonville for converting hot metal into rod through the Properzi? A. Yes, a range of what the costs were.

Q. What was the range, as you recall?

Mr. Topkis: Objection, your Honor. I can't possibly cross-examine this witness' recollection.

With Mr. Briggs, we had a memorandum that was prepared contemporaneously. It spelled out every detail. This man can give me any figure in

the world and I have no way of either challenging it or verifying it.

I submit his testimony is incompetent.

* * *

(465) Q. But in the normal course of events, Mr. Dunstan, did you see accounting records from the Boonville plant? A. Yes.

Q. Did you discuss those with the managers and the accountants at Boonville? A. Yes.

Q. Was this done on a regular basis? A. Yes.

Q. Did this include cost information? A. Yes.

Q. Is it this review that forms a basis for the recollection which you have as to those cost figures? A. Yes.

The Court: I think he can testify as to his recollection, and the objection goes to the weight rather than the admissibility.

Mr. Topkis: Having in mind then, your Honor, that this witness left in September of 1969, a few months after this machine first began operating in Boonville, that I take it is the question.

The Court: Well, the question is directed to the (466) time he was there, isn't it?

Mr. Hamilton: Yes, your Honor, it is.

Mr. Topkis: Your Honor, just to press this for a moment to suggest to your Honor how little weight this is worth, so as to be worthless, let me call to your Honor's attention that my friend has given us production figures on this machine at Boonville.

In the months that this man was there, April, they produced 225,000 pounds of rod; May, 176,000; June, 897,000; July, a million 293; August, a million 417. Then on to a million 700 after he left, and so on.

So what figures is he going to give us, the early ones, the late ones, the average? How am I possibly going to cross examine him meaningfully about

his vague recollection of something that happened five years ago?

The Court: Well, let me see if I understand you. You have in your hand the actual costs?

Mr. Topkis: No, the production figures.

The Court: The production figures?

Mr. Topkis: Yes, of rod produced at Boonville as supplied to me. There was a five-fold multiplication in four months. I daresay that would have had an effect on costs. Whether this man is going to tell us about the costs (467) at the time beginning or end—

The Court: I thought we agreed he is going to tell us about when he was there, not when he wasn't there.

Mr. Topkis: He was only there for five months.

The Court: The first five months of that production record you have there, that's what he is going to tell us about, when he was there, what he remembers the cost to be. Is that it?

Mr. Topkis: I suppose.

The Court: And the question is whether he can testify as to his recollection. The answer to that is yes. His testimony is, therefore, admissible. Your objection goes to the weight the Court ought to attribute to it.

You can argue that how could he possibly remember that kind of detailed information. Then the evidence will be determined by the Court as to its weight.

Mr. Topkis: Very well, your Honor.

Q. Now, Mr. Dunstan, to the best of your recollection, what were the costs being incurred at Boonville from the time that the Properzi started up in 1969 until you left

in September of 1969? A. In the range of three to four cents a pound.

Q. I am sorry? A. In the range of three to four cents a pound.

(468) Q. And which figure on the blackboard, Mr. Dunstan, does that recollection of three to four cents a pound correspond to? A. Well, that would be equal to the 8/10th of a cent.

Q. So the actual experience at Boonville during this period of time was three to four cents a pound, as the cost incurred, and they have used in their damage calculation a figure of 0.8 cents per pound, is that correct? A. That's correct.

Q. Now, Mr. Dunstan, let me ask you something else.

Did Essex have an agreement with Alcoa which gave them the right to have material changed by Alcoa from hot metal into rod? A. Yes, we did.

Q. Is that agreement, Mr. Dunstan, Exhibit P-53 in evidence? A. Yes, it is.

Q. Look at Exhibit P-53 in evidence and tell us what the cost was that Alcoa was charged for transforming hot metal into rod? A. Three cents a pound.

Q. And that's shown on the fourth page of Exhibit P-53, is that correct?

(469) Q. Now, Mr. Dunstan, have you made a calculation as to the effect upon this damage computation if you change the 0.8 cents a pound, which was assumed in that calculation, and make it three cents a pound, which is what was provided for by the Alcoa contract and which is the pessimistic side of your recollection of Boonville's actual costs? Have you made that calculation? A. Yes.

Q. Is that Exhibit D-729 for identification? A. That's correct.

Q. Now, Mr. Dunstan, looking at Exhibit D-72, for identification, would you explain to the Court what that calcula-

tion shows? A. Well, instead of using the 8/10ths we used the three cents a pound, and that indicates that the cost, instead of being 17 cents, would have been 19.15 cents per pound. And based on that we can calculate, multiplying the Essex poundage and the Okonite poundage all the way through, we come down with a profit figure of $12,577,000.

Then we have to go over and perform the T-ingot calculation that had a margin of 5.9 cents from the board over there, and we come down with a calculation that the T-ingot profit would have been $13,345,000, which is greater than the profit would have been on rod, indicating that there (470) is $788,000 more profit that AMAX made because they didn't have the Properzi.

Q. Let me stop you a minute, Mr. Dunstan. A. Let me say one other thing. That is not a hundred per cent correct because there is no depreciation charge in there. And if you add the depreciation charge in, which we had on the OTT calculation of $625,000, that must be a positive figure. So that would come up to roughly a hundred thousand dollars.

Q. Now, let me make sure I understand what you have done, Mr. Dunstan. On Exhibit 729 you have endeavored to duplicate this damage calculation, is that correct. A. That's correct.

Q. But the only charge you have made is that instead of using this 17 cent figure, which was the Briggs forecast made in May of 1968, you have used three cents as the conversion price which was your best recollection of the low side of the Boonville actual costs and is the same number that is specified in the Alcoa contract. A. Yes.

Q. And to go through this calculation using that instead of the Briggs forecast, you come out down here instead of profits under these two contracts of 17.4 million, you come out with profits of 12.3 million approximately. (471) A. That's correct.

Q. Then if you go right through accepting their figures, assuming their figures and find out what they could have made on the T-ingots, this comes out to be the same, 13,390,000, is that correct? A. That's correct.

Q. And the difference between the 13,390,000 and what is over here of 12 million 5 in your calculation indicates that by terminating the agreement, you saved them some $788,000, is that right? A. Less the depreciation cost.

Q. Less the depreciation of 625, which leaves a net savings to them, if you use actual costs, of approximately $150,000? A. That's correct.

The Court: Now, these are figures based on the operation of the Properzi in Boonville after it was set up there?

Mr. Hamilton: Yes, ma'am. Just for the first period of time when he was there. His recollection is it was three to four cents a pound.

The Court: And this was what period of time after it was set up, the first three or four months?

The Witness: Yes.

(472) Mr. Hamilton: That's March to essentially September. It is also based on an actual contract that we had with Alcoa which likewise specified three cents a pound, is what Alcoa would charge us for converting hot metal into rod.

I would like to offer Exhibit D-729 in evidence.

Mr. Topkis: As calculation your Honor, no objection.

(Defendant's Exhibit D-729 received in evidence.)

* * *

(473) *Cross examination by Mr. Topkis:*

Q. Do I take it that your basic position is that by taking the Properzi out of Intalco you in fact put us out of our misery and saved us a fortune? A. Based on your calculations.

Q. And so since our calculations presumably put our best foot forward, that is the very least you did. You might have even been kinder to us, is that right? A. Possibly.

(474) Q. Do you have your 729 in front of you? That is the one that shows that you saved us $788,000 loss. A. That's correct.

(475) Q. And I take it the burden of that document is to suggest that we would have lost 788,000 if we had had the Properzi and it had cost us three cents a pound to operate? A. That's correct.

Q. And it cost you, you told us, at least three cents a pound? A. That's correct.

Q. And Alcoa charged you three cents a pound? A. That's correct.

Q. So presumably Alcoa was doing you a favor by selling you rod at a three cents a pound premium, they were losing money, too? A. They were doing this in line with the major contract which allowed them to sell us up to 50,000,000 pounds of aluminum a year.

Q. And you have been operating your Properzi, so far as you know, all along since 1969, is that right? By "you", I mean, of course, Essex, not Professor Dunstan. A. I know it because people have told me, yes. I haven't seen it.

Q. Do you believe that Essex has been losing a fortune annually or through the years on that Properzi? A. I believe their costs are three cents a pound.

(476) Q. And if we had had a three cents a pound cost we would have lost 788,000? A. Based on your calculations, yes.

Q. And do you believe that the other—do you know how many number 8 Properzis are operating in the United States today? A. No, but I know it is a large number.

Q. Do you think everybody is losing money on them? A. It is not a question of losing money. It is a question of what you put in your costs, and if you put in your costs 8/10ths of a cent and—you see, AMAX is not losing money on the Properzi itself. They are making a lot of money on the aluminum. They're making roughly 7 cents on the aluminum.

Q. Right. A. It is the alternate—the money in aluminum production is in the metal, and they are selling the metal either as T-bar or as rod.

Q. Right. A. So they are still making a considerable profit on T-bar, and any other aluminum company in the business would still continue to make a continual, a major profit on the T-bar, and this can be documented that the cost quite (477) often of finished wire that has been stranded, drawn, stranded and is less than the price of T-bar on the open market, because the companies are definitely losing money on some of their fabricating but they're making the money on the metal.

Q. But somehow or another there are an awful lot of Properzis operating in the United States today? A. This is true.

Q. All right. Let's talk about your dealings with Kilburn. You testified, I believe, that he reported to you about weekly. A. Yes.

Q. And you said some of his reports were in writing? A. I said I am sure he sent me some reports in writing, yes.

Q. I don't think we have seen any. Do you know what happened to them? A. I don't know.

Q. You said, I believe, that the running in period is the period when you eliminate problems, is that right? A. If that is my testimony.

Q. Well, perhaps I have misquoted it. Would you want to change it. Or is that your idea of running in period? A. I believe I said that the running in period is the (478) time when you align the equipment, when you make sure that all the equipment functions properly. Yes, I believe that is what I said.

Q. Right. So that when the running in period is ended, then the machine or the equipment is functioning properly? A. Yes.

Q. Now, sir, do you have in front of you the various exhibits which Mr. Hamilton was referring to as he interrogated you, or shall I supply you with copies? A. You'd better supply them because the only ones I have are these figures here.

Q. I will do my best to do so as we go along.

Your understanding was that the Properzi would be considered to be operating normally, the original running in period would be regarded as at an end, and AMAX would become responsible for operations when, among other conditions, an hourly operating rate of 12,600 pounds had been achieved, is that right? A. Yes.

Mr. Topkis: Your Honor has a copy of PX 24.
The Court: Yes.

Q. Now, Mr. Dunstan, you had some discussions with Mr. Morris about Nichols doing some work to bring the Properzi (479) up to certain operating standards, is that right? A. That's correct.

Q. And you asked him to make a proposal as to how to bring that machine up to an operating rate of 12,600 pounds per hour, isn't that correct? A. That is correct. No, I asked him to make a proposal to us on getting the machine up to specifications, I believe.

Q. Well, that's exactly what I want to discuss with you. Actually you asked him to bring it up to 12,600 pounds per

hour, isn't that right? A. I don't believe that because I wanted it to get up to specifications. He understood he had to get it to specifications sometime.

Q. Wasn't there a time when you asked him to bring it up to 14,000 pounds per hour and a subsequent time when you asked him to bring it up to 12,600 pounds per hour? A. I don't believe so.

Q. If he says to the contrary, would you call him a liar? A. If he says that I said that, I believe I would.

Q. Let me read to you from his testimony and ask you whether it refreshes your recollection, please, and I am going to page 92 of Mr. Morris' deposition, the questioning was being done, I believe, by Mr. Hamilton, and I will (480) start at line 8 on page 92:

"Question. So what response, if any, did Essex make to this proposal, the one of February 23, 1968?

"Answer. It is my understanding—can I go off the record?—it is my understanding from Raiford—and you gentlemen can check with him later if you so desire—that they did not like the price that was on this for one thing.

"Under paragraph X, subdivision (a), we said we would do 14,000 pounds per hour. They said that this was too much money. This is what necessitated the second offer which was built around 12,600 pounds an hour, which it is my understanding was the rate that was supposed to produce in the agreement between AMAX and Essex. I don't know. I have never seen that agreement.

"Question. Did Essex then make a counter offer following? I am not asking you for a legal interpretation of what a counter offer is, but did Essex suggest other arrangement for a start up?

"Answer. They suggested a 12,600 pounds per hour arrangement.

("They" being Essex.)

Essentially, to my understanding, that is why we prepared it and presented it.

"Question. So who at Essex suggested this (481) 12,600 pounds.

"Answer. I think that came back through Mr. Kilburn to Mr. Raiford."

Mr. Raiford, of course, is at Nichols, right? A. Right.

Q. Now, does that refresh your recollection that it was Essex which raised the 12,600 pounds figure with Nichols? A. Well, it refreshes my mind that I never did it.

(482) Q. Well, you don't have any doubt that that figure came to Nichols from Essex, do you? A. That wasn't their only source of information. I'm not sure. You are asking me to testify to something I don't know. I don't know.

Q. So you don't know, then, who first suggested this 12,600 pound figure, whether it was Essex or Nichols, is that right? A. That is correct.

Q. Now, let's take this letter that you had so much difficulty with, the letter by Mr. Nichols—I'm sorry, from Nichols, dated May 2, 1968.

Do you have that in front of you? A. Yes, I do.

Q. That is PX-24? A. That is correct.

Q. And you said you were shocked by that letter; was that your word, disturbed? A. I was disturbed, yes.

Q. And one reason that you were disturbed was that you thought there was a hedge in it; they used the word "operating" or the term "While operating," right? A. Right.

Q. Did you ever hear of a machine which had an (483) operating or a production rate while it wasn't operating? A. Yes.

Q. When you read this letter, you knew very well that they meant an operating rate of 12,600 pounds per hour, isn't that right? A. I did not.

Q. Were you looking to find something wrong with this letter, Mr. Dunstan? A. Frankly, no.

Q. You were looking for help, and this is the help that was offered to you, and you turned away from it in trembling fear, is that it? A. No.

Q. Incidentally, going back to the question of whether you suggested twelve, six or they did, so far as you were concerned, it made not the slightest difference to Essex whether that machine produced a 12,600 pounds per hour or 14,000, did it? A. It did make a difference.

Q. If it produced a 12,600 pounds per hour, AMAX was stuck with it, isn't that right? A. No.

Q. What is the explanation for your negative answer? A. The clause in the contract that says—

(484) Q. Which says? A. —that the machine must operate as specified.

Q. And you and Tommy Kaufmann had made a deal, that 12,600 pounds an hour would do the trick, hadn't you? A. We never agreed that it was as specified.

Q. Do you specialize in not understanding letters that people write to you? A. No.

Q. You wrote Mr. Kaufmann a letter, didn't you—well, you wrote a letter, now I am referring to PX-12, on January 22, 1968, in which you said, and I quote:

"The Properzi will be considered operating normal, beyond the run-in period, and become the operating responsibility of AMAX when 12,600 pounds per hour are produced."

You wrote that letter, didn't you? A. That's correct.

Q. So it was a matter of total indifference to you once it hit 12,600 pounds per hour, isn't that right? A. Except we had a clause in the contract that could have changed it.

The Court: What exhibit is that?

Mr. Topkis: PX-12, your Honor.

May I approach the bench and show it to your Honor?

(485) The Court: I have it. Just let me take a minute to look for it.

Mr Topkis: I am referring to the third full paragraph, your Honor.

The Court: I have it.

Mr. Topkis: You see the language in the third full paragraph is what I was reading from, your Honor.

Q. What clause are you referring to, Mr. Witness? A. If you show me the contract, I can show you the clause.

* * *

Q. Mr. Dunstan, have you yet found the language to (486) which you are referring? A. No, I have not.

* * *

Q. Mr. Dunstan, perhaps I can cut this short.

What are you looking for? A. I am looking for the clause that says, that if the machine doesn't operate up to specifications, it must be removed promptly by Essex.

The Court: Is this what you have in mind, this sentence here, beginning here?

The Witness: Yes.

"Should the Properzi fail to live up to specifications, Essex promptly will fix or remove the Properzi and restore the site."

Q. And you were afraid that if you built the machine up to operating at 12,600 pounds per hour, AMAX would nonetheless call on you to take the machine away because it wasn't operating at 14,000, is that it? (487) A. They did have that opportunity.

Q. And you lived in fear of it, and that is why you turned down the Nichols deal, is that what you are telling us? A. I did not live in fear, no.

Q. You did not have the slightest fear of it, did you, in point of fact? A. Yes, we did.

Q. Mr. Dunstan, AMAX had said that it would accept the machine if it operated at 12,600 pounds per hour, hadn't it? A. Accept it as operating normally, yes.

The Court: Just a moment. Read that last question and answer, please.

(Record read.)

The Court: Is that in some document, the acceptance?

Mr. Topkis: Yes, your Honor.

The Court: What is the number?

Mr. Topkis: Well, it is two. It is Mr. Dunstan's letter to Mr. Kaufmann of January 22, 1968, PX-12, from which I read just a moment ago—

The Court: Well, what I was getting at, PX-12 is Mr. Dunstan's reply to Mr. Kaufmann, I gather, to what is set forth in Defendant's 141.

(488) Mr. Topkis: Right.

The Court: Now, what I am getting at, is there something in writing following this letter of January 22, which indicates that AMAX accepted this 12,600 per hour?

Mr. Topkis: Yes, it is PX-13.

The Court: Let me get that.

Just a minute.

All right, I have found it. Just give me a chance to read it.

Mr. Topkis: Yes, your Honor.

(Pause.)

The Court: All right. You may proceed.

(489) Q. So, Mr. Dunstan, the machine would become AMAX's operating responsibility and AMAX would ac-

cept it if it hit, among other conditions, 12,600 pounds per hour production, right? A. That's right.

Q. And I put it to you sir, that under those circumstances once it reached 12,600 pounds per hour it made not the slightest difference to you thereafter whether it ever got up to 14 pounds or not, because in any event AMAX would be obligated to sell you the rod that you claimed to want, is that right? A. They would be obligated to sell us the rod, that's correct.

Q. Now, sir, you said also a couple of minutes ago that you were concerned about this provision in the Nichols letter to you of May 2, 1968, where they spoke of bringing the machine up to the point where it would operate at the rate of 12,600 pounds per hour while operating.

Do you remember that language? A. That's correct.

Q. And you said you were concerned about that phrase "While operating," right? A. That's correct.

Q. Those are your words, aren't they? (490) A. They can't be my words because you just gave me testimony that he had never gotten the twelve six, he had never seen any agreement for twelve six.

Q. Pick up with me, please, sir, your letter to Mr. Kaufmann of January 22, 1968, Plaintiff's Exhibit PX-12. A. I don't think I have it.

(Pause.)

Q. Do you have it, Mr. Dunstan? A. Yes, I do.

Q. You there wrote, "The Properzi will be considered operating normal beyond the original run in period and become the operating responsibility of AMAX when, A, the Properzi has operated for two weeks at an average production of 90 per cent of the rated 4,000 pounds per operating hour."

So I put it to you, sir, Mr. Morris of Nichols was giving you back your words, wasn't he? A. I don't believe so.

Q. You see a difference between "per operating hour" and "while operating?" A. Yes. In his second sentence he says, "And operating hour against when rod reaches the coiler and ends when rod is no longer being coiled."

My definition of an operating hour would be when (491) the crew gets there and starts operating the equipment.

Q. Did you immediately call Mr. Morris and say to him, hey, we have a big disagreement over what operating hour means? A. No, because he spells it out perfectly.

Q. And you thought he meant that if the machine didn't work at all, or worked for just one hour and in that one hour produced 12,600 pounds, and then never worked again, that would save you? A. Oh, no, but he was counting as operating hours the time that the rod was running, was running, was running well, reaches the coiler, and the minute anything happened, if a spout went down, if the wheel warped and the machine had to be set down for a change in the wheel, then that is not an operating hour. But an operating hour in the parlance of somebody running equipment is when the operator is there trying to make the machine run.

Whether he succeeds or not.

This says an operating hour starts when the man succeeds in making it run. To me there is a big difference. Because we hadn't succeeded in making it run.

Q. You hadn't run it in. A. We had run it in.

Q. I see. But in any event, you didn't call Mr. (492) Morris and say to him, hey, we are in total disagreement as to what the words operating hour mean? A. No. He spells it out.

Q. And did you say that you had some other problem with this letter, your other problem being that—A. His clause that he had to be supplied with adequate metal, mechanical, electrical, maintenance, supervision and hourly personnel, we had been complaining all along.

By "we" I mean in the person of Charlie Kilburn-Essex, had been complaining all along that we did not have an adequate metal, adequate mechanical, electrical maintenance, and adequate supervision and hourly help.

Q. That is your understanding of what Mr. Kilburn had been doing? A. Yes.

Q. Let's hold that until he is here and he can tell us all about it. A. Fine.

Q. Because you have no personal knowledge of it, right? A. Just his verbal reports to me.

Q. Right. Let's hold that then.

Was there any other reason why you didn't accept (493) this Morris-Nichols proposal? A. Well, there were three reasons, as I said before. One is that operating hour definition. The other was his hedge on adequate metal. Then the idea that they would be off the hook with the machine if it operated at twelve six instead of 14.

* * *

(494) Q. Let's go, Mr. Dunstan, to your meeting with Mr. Clough on July 25, 1968. You remember that meeting? A. Yes, sir.

Q. It was agreed there that you would pay AMAX $424,898.95. A. Correct.

Q. And that figure did not include any compensation to AMAX with respect to any claims it might have had regarding the removal of the Properzi, isn't that correct? A. That's correct.

Q. And what Essex was paying for was the metal you had gotten, the costs that AMAX had incurred from working with the Properzi that were allocated to Essex and nothing else, isn't that right? A. That's correct.

Q. There were no other components to the settlement? A. That's correct.

Q. The fact is that at this meeting there was no mention of any claim, one way or the other, which AMAX might have against Essex by reason of the removal of the Properzi, isn't that right? A. That's correct.

Q. No word was said? A. That's correct.

(495) Q. And equally, at no time did anyone at Essex ever say to anyone at AMAX, so far as you know, that Essex was entitled to remove the Properzi because AMAX had breached either the lease or the purchase agreement? A. That's correct.

Q. And when you installed the Properzi at Boonville, you got assistance from Nichols, didn't you? A. That's correct.

Q. The kind of assistance that they had offered you back in 1968, when the machine was at Intalco? A. Not exactly.

Q. They were willing to do for you whatever you wanted done? A. That's correct.

* * *

(496) Q. Before the Properzi was removed, you had a contract with Alcoa at a lower price than your contract with AMAX, didn't you? A. Yes. I'm not sure. May I add one thing?

Q. Please. A. I'm not sure that the rod price net was lower. I'm not sure of that.

Q. It was the freight that made the difference? A. It could have been. You would have to look at the figures and the figures in the testimony.

Q. All right, fine.

In your deposition, Mr. Dunstan, you didn't say anything, did you, about being concerned with the Nichols proposal of May 2, 1968, by reason of the definition there contained of "operating hour"? A. If I didn't, it's because nobody asked.

Q. Well, weren't you asked whether you accepted it, and didn't you answer that you didn't, and explained why? A. I believe so.

Q. And you didn't say anything about the definition of "operating hour", did you? A. You have it there. You must know.

(497) Q. Do you remember having said anything about "operating hour" either then or at any other time to anybody from Nichols? A. From Nichols?

Q. Yes. You never said anything about it to anybody from Nichols, did you? A. No.

Q. And before your testimony in this courtroom you never testified about it, did you? A. If it is in there, that I didn't, I didn't.

Q. Well, if you can find it, you are welcome to, and perhaps you will have an opportunity. I can't find it. A. All right.

Q. When you decided to pull your machine out of Intalco you decided to bring it back to Boonville, didn't you? A. I am trying to think whether we decided at that time whether it was going into Paducah or Boonville. Let me get the point in time. Yes, the answer is yes.

Q. It was going to Boonville? A. Right.

Q. You never said to anybody at Properzi or Nichols, "Take back this machine, it doesn't work"? A. I think that letter that Mr. Hamilton read said (498) that I was going to take it back, I wanted them to take it back.

Q. The first machine? A. Yes.

Q. Or did you want to cancel the order for the second machine and get your deposit back? A. We entered that as a solution to the problem, but I believe that letter, if you will find it—

Q. Sure. The letter that I think you are referring to is Plaintiff's Exhibit PX-2. Is that the one, Mr. Dunstan? A. I think it is. If that is the one that Mr. Hamilton read.

Q. And there is language in there suggesting a meeting to discuss disposition of the machinery. A. That is what I am talking about.

Q. Is that the language that you are adverting to? A. Right.

Q. My question to you, sir, is: did you ever say to Nichols or to Properzi, "Take it back"? A. Not other than to discuss disposition.

Q. And what you did with it was take it and bring it back to Boonville? A. That's correct.

(499) Q. Isn't it the fact that you removed the Properzi from Intalco, brought it back to Boonville and cancelled your order for the second Properzi because the first could deliver all of the rod that you needed? A. No.

Q. Let me ask you: your deposition was taken in this action on July 16, 1970. A. Yes.

Q. And you were there interrogated by Mr. Hamilton. A. Yes.

Q. Let me ask if you were asked this question and gave this answer, and I am referring to page 40, at the bottom:

"Q. Let me rephrase that, Mr. Dunstan. Well, let me ask it this way: what happened subsequent to your letter of May 10, 1968 (that is the termination letter) insofar as your purchase of the second Properzi from Nichols was concerned?

"A. Well, then we cancelled the second Properzi because we felt that one Properzi would be adequate for our 60 million pound need, so we never accepted delivery of the second Properzi, I understand."

Were you asked that question and did you give that answer? (500) A. If you have read that, yes.

Q. And the answer was true? A. It depends on a point in time. We had the Paducah plant scheduled to use 60 million pounds of rod. If the Paducah plant could use 60 million pounds of rod, we had other uses for rod in the

company at other plants than Paducah, for building wire, for magnet wire, and we needed in excess of 60 million pounds, under those circumstances.

Q. And you cancelled the second Properzi because you felt that one Properzi would be adequate for your 60 million pound need, isn't that right? A. That's right, at that point in time.

Q. So far as the installation of the Properzi at Boonville is concerned, Mr. Dunstan, am I right in believing that the only changes that were made in it from its condition when it left Intalco was the substitution of one kind of spout made from one material for another material and a change in the casting wheel angle? A. I can't testify to that. I think Mr. Kilburn could give a better answer. To my knowledge that may be right, but technically I am not sure.

Q. You were there? A. Oh, I was there.

(501) Q. Were you asked this question and did you give this answer at your deposition, page 59, line 20:

"Q. Other than changes in the spout and wheel, do you know whether there were any other modifications to the machine that arrived in Boonville?

"A. No, there were no other changes to the machine that arrived in Boonville."

Were you asked that question and did you give that answer? A. Yes, but there is a difference there. You asked me the angle and the spout.

Q. Yes? A. I believe there were changes to the wheel and to the cooling, and the cooling would be part of the wheel operation.

Q. Oh, so you meant to embrace within your reference to a change in the wheel, a change in the cooling system of the wheel, is that it? A. And a change in the wheel itself.

Q. And a change in the wheel itself, so both the cooling system of the wheel and the wheel itself were modified, is that right? A. That's correct.

Q. And also the spout was changed? (502) A. Right.

Q. Other than that, the machine was unchanged so far as you know? A. The other question would be the question —you asked me about angle, and I don't know the answer, whether we changed the angle or not.

Q. All right. I think we will be able to develop that from other witnesses.

When the Nichols people were at Boonville to bring the machine up to snuff, how long were they there? A. I think you will have to question what groups of people, because I think they came on, you know, the management people, like Jim Morris and people like that came, and then the actual crew people came, and I would guess that the crew people were there a week.

Q. And the management people? A. I'm not sure about that.

Q. Let me ask you whether you were asked these questions and gave these answers at your deposition, Mr. Dunstan, and I'm going to be reading from page 81, line 12:

"Q. Let's start with Mr. Kaufmann. Do you recall the first time you had a discussion with him concerning the definition of 'run in' or 'operating normally'?

"A. I believe it was at that meeting in (503) Bellingham."

This is still part of the question if I may interpolate, I think that is the January meeting in Bellingham. "Is that the same meeting we were just talking about?

"A. Yes.

"Q. Do you recall what was said in connection with that?

"A. Yeah, people were trying to find out what they meant.

"Q. Do you recall what Mr. Kaufmann said?

"A. Well, Mr. Kaufmann believed the machine should be running perfectly and he tried to say that it should be

running perfectly. Now, what running perfectly means, we later tried to define, and we disagreed that it could be run perfectly, and we had some discussions about trying to come up with some parameters before making a decision that the machine was acceptable to American Metal Climax.

"Q. Did you make any suggestions as to the definition of 'run in'?

"A. The only suggestion I would make is that I thought as long as you pushed a button and it ran it was run in.

"Q. Is that your total recollection of what was (504) said concerning the definition of 'run in' and 'operating normally' at that meeting?

"A. Oh, it was a lot of discussion about it, but what results came out of it I can't recall.

"Q. You don't recall whether there was any agreement among all of you as to what the definition was?

"A. Yeah, Tom Kaufmann wrote down what he thought were fair requirements and I believe I sent him a letter back saying what I would accept as a time when we would pull Charlie Kilburn out of Bellingham.

"Q. And is that the writing which you just referred to, a document which was previously marked as Plaintiff's Exhibit 12 (and you have seen that)?

"A. Yes.

"Q. Is it fair to say, then, that you agreed with Mr. Kaufmann that the Properzi would be operating normally when it could produce 12,600 pounds per operating hour during the period of two weeks, at least 750,000 pounds of rod?

"A. Yes.

"Q. Aren't those requirements identical to the requirements which appear in Plaintiff's Exhibit 24 (and that is the Nichols letter)?

"A. Yes, except for the other provisos put in (505) here by Nichols.

"Q. Those are the provisos concerning maintenance that you testified to earlier?

"A. Yes, the three at the bottom."

You were asked those questions and you gave those answers? A. Yes.

Q. And were you asked these questions and did you give these answers, and I will read from page 84, starting at line 13:

"Q. Is it fair to say that the only reason that Essex rejected the offer proposed by Nichols, which is reflected in Plaintiff's Exhibit 24, is the maintenance requirement which is set forth in the last paragraph of that letter?

"A. No.

"Q. What is the reason? What are the other reasons?

"A. The problem that we have been discussing all along. Just because Nichols came there and ran it for this period of time didn't mean that if they went away and the next week it didn't run at this requirement, that American Metal Climax would accept it.

"Q. Is that the only other reason?

(506) "A. Well, you have got your three reasons at the bottom. Besides maintenance, there's a metallurgical problem, there's a general cooperative problem, this other question of whether I believed Nichols could do it at all."

Were you asked those questions and did you give those answers? A. That is my testimony, yes.

Q. Who made the decision to reject the proposal from Nichols? A. I believe I made it jointly with Mr. O'Malley.

Q. You were the main one? A. Yes.

Q. Isn't this the fact, Mr. Dunstan, that you had deals with both AMAX and Alcoa under which you could supply all of your rod needs; your principal reason for wanting to continue the AMAX contract was that you hoped to establish a joint pot line with AMAX, and that when the

possibility of establishing a jointly owned pot line fell through you decided to dump the Properzi deal? A. I'd say no.

* * *

(508) Q. So far as you are aware, at any time since May of 1968 has Essex endeavored to purchase another model 8 Properzi? A. To my knowledge, no.

* * *

(509) Q. You had a meeting with Nichols after your letter of June 7th, was it? A. Yes.

Q. June 7th, and I am referring to Plaintiff's Exhibit PX-2. Do you remember that letter? We were looking at it just a few minutes ago. A. That is the one about the disposition?

Q. Right. A. Okay.

Q. You had a meeting with Mr. Morris on June 21, 1968, at O'Hare Airport, wasn't it? A. That's correct.

Q. And at that meeting you didn't say anything to Nichols about "Take back the Properzi," did you? Instead, you discussed cancellation of an order for a second one, isn't that right? A. I would say yes.

* * *

(510) *Redirect examination by Mr. Hamilton*:

(512) Q. Now, Mr. Dunstan, I think Mr. Topkis was inquiring as to the changes that were made in the machine, the Properzi, when it was installed at Boonville. He asked you about the spout and the moulding question and then you brought up the cooling question.

Do you recall that testimony? A. Yes.

Q. I would like to read your testimony from your deposition on July 16, 1970, in Charlottesville, Page 58, starting with Line 15:

"Q. Will you tell me as a layman what the change in the wheel was made of, what that consisted of?

"A. The wheel, and this is in layman's terms because I am not, as I said, technically competent to tell you all about it, my understanding is the wheel we had at Bellingham didn't allow sufficient cooling. There is a high pressure stream of water that runs through the wheel and that this did not allow adequate and uniform cooling. So there were temperature gradings set up in the metal so that the metal twisted. And by redesign, and I don't know how you would do something like this, but (513) by redesign the temperature of the wheel was uniform and therefore didn't warp."

Now, is this the wheel and the cooling problem that you were talking about to Mr. Topkis? A. Yes.

Q. And you mentioned that during your deposition in Charlottesville, is that correct? A. That's correct.

Q. Now, Mr. Dunstan, we had some talk about the language and the definition of "operating normally."

What was the importance to Essex of the definition of operating normally? A. The importance of that was that we couldn't get really any rod or there was no contractual obligation on the part of American Metal Climax to give us any rod until the machine was operating normally.

Q. Were you anxious to get the machine operating normally? A. Yes, we were, because we needed a consistent source of rod.

(514) Q. Do you remember, Mr. Dunstan, what the anticipated capacity of the Paducah plant was? A. Well, it was designed for 60,000,000 pounds.

Q. Now, Mr. Dunstan, Mr. Topkis read from your deposition on page 40 and 41 the following questions and the following answer:

"Question. Let me rephrase that, Mr. Dunstan. Let me ask it this way: What happened subsequent to your letter of May 10, 1968, insofar as your purchase of the second Properzi from Nichols was concerned?

"Answer. Well, we cancelled the second Properzi because we felt that one Properzi would be adequate for our 60,000,000 pound needs.

"So we never accepted delivery of the second Properzi, I understand."

Now, is the 60,000,000 pound need the Paducah plant that you are talking about? A. Yes.

Q. Could you use two Properzis at the Paducah plant? A. No.

Q. You originally were going to have one Properzi at Intalco and the second at the Paducah plant? A. Yes.

(515) Q. What you are saying is you had two Properzis and you couldn't put them both at Paducah. Isn't that what you are saying? A. That's correct.

Mr. Hamilton: Nothing else, thank you.

Recross examination by Mr. Topkis:

Q. Your plan had been to have Properzis produced for you at two locations, Properzi rod produced for you at two locations? A. You mean Bellingham and some other location?

Q. Yes. A. Right.

Q. You were going to put that second Properzi into Paducah or Boonville and run it full blast, right? A. Yes.

Q. And you were also going to take 18 to 20,000,000 pounds a year from Intalco? A. That was our original forecast.

Q. And you have discovered since then you could get by with just the output of the one Properzi? A. That's correct.

Q. And you made that discovery and that is when you pulled the Properzi out of Intalco, is that right? (516) A. I would say no.

Mr. Topkis: No further questions.

James C. Dunstan, for Plaintiff—Redirect, Recross

Redirect examination by Mr. Hamilton:

Q. Isn't it a fact, Mr. Dunstan, in July of 1968 you had a shortage of aluminum? A. Yes, we did.

Q. Isn't it a fact that by December you still had a shortage of aluminum and were looking for another source of alumi[illegible] A. That's correct.

Recross examination by Mr. Topkis:

Q. You had a shortage of aluminum but did you have a shortage of alumi[illegible]n rod? A. I don't recall whether the shortage was rod. I believe there is something—there is an exhibit that would indicate whether it was rod or aluminum.

(Pause.)

Q. I am not sure what you are referring to, Mr. Dunstan, but let me try by showing you Defendant's Exhibit D-725 in evidence and ask you if that is what you are referring to? A. No. There is a later letter that Mr. Hamilton (517) asked me about at the end of my direct testimony.

(Discussion off the record.)

Q. Let me first ask you whether you are referring to Plaintiff's Exhibit P-64, Mr. Dunstan? A. No.

Q. Well, let me ask you— A. It is one of my letters. It is a letter from me, I believe, to Mr. O'Malley. It was a confidential letter about aluminum requirements.

Q. Are you referring, Mr. Dunstan, to Plaintiff's Exhibit P-6? I will show you a copy of it. A. Yes.

Q. From that can you tell us whether the shortage was of aluminum or rod as you envisaged it then? It was of aluminum, was it not? A. There is a definite shortage of aluminum because it says here, "Therefore, to plan for the

reduction plan, we must not only increase our aluminum intake from Alcoa but get another short term five year source at as low a competitive price as Alcoa's was."

Q. So it was a shortage of aluminum? A. No. It is a definite shortage of aluminum but it could be aluminum and wire. See, our intention was to build up our aluminum total wire usage to 100,000,000 pounds. (518) That was our intention in the plan. That is how we were going to get to the pot line.

It says, "10 per cent of the 1972 market"—this was a wire market, the wire market—"could be 160,000,000 pounds for Essex."

So that in '68 we still believed that we were sometime going to get to this.

Q. But you didn't recommend that you go out and buy a second Properzi? A. No.

Q. All right.

Mr. Topkis: No further questions.

Mr. Hamilton: Nothing else, your Honor.

(Witness excused.)

* * *

(521) January 22, 1974
10:00 a.m.

(Trial resumed.)

(In open court.)

Mr. Hamilton: Your Honor, my next witness is Mr. Seifert, but before commencing with him, I would like to offer two deposition transcripts into evidence. The first one is the deposition of Mr. James M. Morris, who was with Nichols Aluminum Co., the agent of Properzi.

The deposition was taken May 5, 1970. We will mark that as D-731.

Mr. Topkis: No objection. Perhaps I should

say, your Honor, that Mr. Hamilton and I agreed that rather than nitpick this, we will give the whole thing to your Honor.

Your Honor is familiar enough with the various exclusionary rules and apply them if need be. At least we are content with that, if your Honor is.

The Court: All right.

(Defendant's Exhibit D-731 received in evidence.)

Mr. Hamilton: The second deposition, your Honor, is of Mr. Paul K. Raiford, likewise Nichols Aluminum, taken (522) on May 5, 1970, which has been marked for identification as D-732, and I offer it in evidence.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D-732 received in evidence.)

* * *

(524) THOMAS L. SEIFERT, called as a witness by the defendants, being first duly sworn, testified as follows:

The Witness: Thomas L. Seifert, S-e-i-f-e-r-t.

Direct examination by Mr. Hamilton:

Q. Mr. Seifert, are you currently employed? A. Yes. I work for Canteen Corporation.

Q. And where are you employed? A. I am employed in the 1430 Merchandise Mart, The City of Chicago.

Q. What kind of a position do you have there? A. I work in the legal department. I am associate general counsel of Canteen.

Q. Are you a member of the bar? A. Yes, I am.

Q. What bars are you a member of? A. That would be the States of Illinois and also Indiana.

Q. Was there a time, Mr. Seifert, when you were employed by Essex International, Inc.? A. Yes.

Q. When did you first become employed by Essex? A. I began to work for Essex on February 20, 1967.

(525) Q. What was your position at that time? A. I worked in the legal department as a lawyer.

Q. And how long did you remain with Essex? A. I remained with them until November 30, 1970.

Q. Was your job there as a lawyer throughout that time? A. My job was as a lawyer during that three and a half or three years and nine months.

Q. Mr. Seifert, did you participate in any way in the negotiations for the two contracts which are the subject of this lawsuit? A. No.

Q. When did you first become aware of the existence of those two contracts? A. I became aware of the purchase agreement to purchase rod sometime in the summer or perhaps early fall of 1967, during that time frame.

Q. And in what context did you learn of the supply contract? A. During that time frame, we were discussing purchase of metal with another company, and in order to prepare the contract with the other company, I had to find out what were the Essex commitments to purchase metal, and I looked at the contract in the context of (526) finding out what were the Essex requirements under that contract.

Q. This was in the fall of 1967? A. That is correct.

Q. And was this in connection with your negotiations with Alcoa? A. That is correct.

Q. Were you personally involved in those negotiations? A. Yes, I was.

Q. Now, Mr. Seifert, when were you first actually consulted by Essex management with respect to the terms or the conditions of the two contracts with American Metal Climax? A. That would be early May of 1968.

Q. Would you tell us, to the best of your recollection, who you consulted with at that time? A. The situation arose that Mr. O'Malley and Mr. Dunstan were in Paul's office, and I was called into the office, and Mr. O'Malley stated the situation that, "Tom, we need rod out of this piece of equipment which was located out in Ferndale, Washington. We are not getting rod. We need it. Would you please look at the contract and tell us what our rights are under this contract?"

(527) Q. Now, was that the first time you had actually looked at the lease agreement? A. Yes, I do not recall seeing it any time prior to that.

Q. After looking at the lease agreement—I mean, after having this converastion with Mr. O'Malley, what did you then do? A. I went and got a copy of both of the contracts, the bailment lease and also the rod purchase agreement, and I read the contracts, and after reading the contracts I found a sentence in one of the contracts, the bailment lease, which stated—and I don't know the exact words, but something to the effect that if the Properzi fails to live up to specifications Essex shall fix it or promptly—or remove it and promptly restore the site. I think the word "promptly"—it shall promptly fix it or remove it and restore the site.

After I had read that contract, and both of the contracts, I drove down to Marion, Indiana, to consult with Mr. Charlie Kilburn. As a lawyer, it was my view of the contract—

> Mr. Topkis: If your Honor please, I don't mean to interrupt the witness, but I don't think his view of the contract as a lawyer is relevant evidence before this (528) Court.
>
> Mr. Hamilton: Let me ask another question.

Q. You went down and talked to Mr. Kilburn? A. Yes, I did.

Q. What was your purpose in talking to Mr. Kilburn? A. I wanted to assure myself that the company had done everything possible to make the Properzi run, that it had gone the extra mile, that it had completely exhausted every possibility of getting this piece of machinery running.

Q. All right.

Now, after talking to Mr. Kilburn, did you then report back to Mr. O'Malley or Mr. Dunstan, or both, what conclusions you had reached? A. Yes, I did.

Q. Now, Mr. Seifert, I show you a copy of Exhibit P-29 in evidence, which is a letter dated May 10, 1968, signed by Mr. Dunstan and addressed to American Metal Climax, which the evidence has indicated is the termination letter that Essex sent, and I ask if you had anything to do with the drafting of that letter. A. Yes, I did.

Q. And did this follow your discussions with Mr. Kilburn? (529) A. Yes, it did.

Q. Did you draft this letter? A. Yes, I did.

Q. Now, what happened, Mr. Seifert, after drafting this letter? Did you continue to remain in touch with the situaton, or did you drop out of the picture, or what? A. Well, as I recall, May 10th was a Friday, and after sending the letter, there was a meeting held at Mr. Dunstan's office, involving myself, Mr. Dunstan, Mr. O'Malley and Mr. Kilburn on May 13th.

Q. What was the purpose of that meeting, Mr. Seifert, do you recall? A. Well, the purpose of that meeting was simply to follow up on the sending of the letter, to instruct Mr. Kilburn to proceed to Intalco, basically, to make whatever arrangements he needed to make to take out the piece of machinery.

Q. Now, Mr. Seifert, the evidence here has indicated that following this letter of May 10, 1968, there was a

response received from American Metal Climax, Essex then drafted a second letter, and American Metal Climax then sent a second letter back.

Did you see those letters at that time? (530) A. Yes, I did.

Q. And did you review them? A. Yes, I did.

* * *

(553) Q. Now, Mr. Seifert, earlier in your testimony, you testified that you had some participation in the Alcoa contract negotiations.

Would you describe for me the nature of your (554) participation in those negotiations? A. The nature was to function as a lawyer and also to gather data for the purpose of drafting the contract.

Q. And in that context, I think you told us previously that you had occasion to consult the supply contract with American Metal Climax? A. I did look at the rod purchase agreement to find out what were the Essex requirements that it purchased from the plaintiff, what was the minimum quantities, the maximum quantities that had to be purchased from the plaintiff.

Q. Why were you interested in these contract requirements from American Metal Climax? A. Well, we had to, of course, purchase that rod from the plaintiff in conformance with the contract. Therefore, I needed to know what those requirements were in order that I could draft the Alcoa contract to provide the flexibility to allow for purchasing, not only the AMAX, but also the Alcoa Metal.

Q. Now, Mr. Seifert, I would like to show you a tabulation, a chart, and I would ask you if you prepared that chart? A. Yes, I did.

Q. And can you tell us when you prepared that chart? A. It would be sometime late summer, early fall, (555) or maybe fall of 1967.

Thomas L. Seifert, for Defendant—Cross

Q. Was it prepared in connection with these Alcoa negotiations that you have just been talking about? A. It was prepared precisely to find out what we could purchase from the Alcoa people.

Mr. Hamilton: This, Mr. Topkis, is part of another exhibit which has handwritten notes on it. I would like to mark this as a separate exhibit. It is a marked exhibit, however. It is 53.

I would like to mark this as Defendan't Exhibit 734 and I offer it in evidence.

Mr. Topkis: I have no objection. I want to make sure we have a copy of it.

(Pause.)

Mr. Hamilton: I offer D-734 in evidence.

Mr. Topkis: No objection.

(Defendant's Exhibit D-734 received in evidence.)

Mr. Hamilton: No further questions, your Honor.

(556) *Cross-examination by Mr. Topkis*:

* * *

(559) Mr. Seifert, I am going to show you a copy of Plaintiff's Exhibit PX-32, a memorandum which I believe you wrote. Is that correct? A. Yes, that's correct.

Q. Do you recognize the handwriting in the lower left, sir? A. Yes.

Q. Can you tell us whose it is? A. Mr. O'Malley's.

Q. Could you read it to us, please?

Mr. Topkis: I offer the exhibit and I will supply a copy to the Court in a moment.

A. "Tom—Have somebody tell them to go to hell and take it out. P.W.O."

Q. And that's P. W. O'Malley? A. Yes.

(560) Q. By that, did you understand that somebody was to tell AMAX to go to hell and you were to take out the machine? A. I didn't interpret it literally, no.

Q. You were supposed to have somebody tell them delicately to go to hell? A. No. Just to proceed with the basic Essex decision, which had already been made in the matter and which had been communicated in the May 10th letter.

Q. And these far more blunt words are Mr. O'Malley's way of saying what he really meant; is that right? A. He was telling me to proceed with what we had decided and what had been communicated to the plaintiff in the May 10th letter.

Mr. Topkis: I will offer PX-32 in evidence and I will beg leave of your Honor to supply a copy to the Court later.

The Court: Any objection?

Mr. Hamilton: No objection.

* * *

(574) Mr. Hamilton: Your Honor, defendant calls as its next witness Mr. Paul O'Malley.

PAUL W. O'MALLEY, called as a witness by the defendant, being first duly sworn, testified as follows:

Direct examination by Mr. Hamilton:

Q. Mr. O'Malley, are you currently affiliated with Essex International, Inc.? A. Yes.

Q. What is your position? A. I am the president.

Q. Are you chief executive officer? A. No.

Q. Chief operat ng officer? A. Yes.

Q. How long have you been president and chief operating officer? A. February of 1966.

Q. As president and chief operating officer, Mr. O'Malley, do you have responsibility for purchasing Essex' metal requirements? A. Yes.

Q. Would you just tell me in general how you go (575) about carrying out that responsibility for purchasing metal? A. Well, basically we have two metal inventories, one in copper and one in aluminum, and I have taken on the prime responsibility for negotiating basic contracts in these materials, and then the scheduling would be done by a buyer and scheduler who would be working directly for me at corporate headquarters in Fort Wayne.

Q. And in making your purchases of aluminum and copper, Mr. O'Malley, do you from time to time try to forecast what your needs are going to be? A. Yes.

Q. Is that done on a regular basis? A. Yes.

Q. Now tell me, Mr. O'Malley, when did you or Essex first become interested in purchasing a Properzi machine? A. Well, we had one Properzi machine in the early '60's or the late 1950's, but that was destroyed by fire, and there was a period of three or four years where we did not have one, but in 1965 or 1966 we became interested again because of the volume requirements that we foresaw for our aluminum.

(576) Q. Would you tell us what volume requirements you foresaw for aluminum and how you intended to utilize these volume requirements? A. Well, basically, we have substantial interests in quite a few varieties of wire. We do not or did not at that time have a substantial interest in two types of wire; one was telephone cable, and one was power conductor for electrical utilities. At this time we made a policy decision and it was our desire to continue our growth and to grow in those two areas.

With that, with the decision made to go into the power conductor business for electrical utilities, that was the genesis of our Paducah plant which was going to require substantial volume of aluminum.

It was also apparent to us at this time, in order to compete and to capture a share of this market, it was going to be necessary for us to insure a long-term low-cost source of aluminum.

(577) Q. So what steps did you take, Mr. O'Malley, to try to insure this long-term, low-cost source of aluminum? A. Well, first came the forecast, the forecast of what we thought we might be able to capture in the aluminum market, plus the forecast that we had at the same time of substantial inroads of aluminum into our historical building wire markets, magnet wire markets.

We foresaw the possibility of our aluminum consumption rising to something on the order of a hundred million pounds in the course of five, six, seven years.

It was that kind of a forecast I am talking about.

In order to insure ourselves of a low-cost source of aluminum, we commenced discussions, and we had discussions—I had discussions with several prime producers in the Uinted States, all aimed at trying to develop a partner for us in an aluminum pot line project.

Q. In that connection, Mr. O'Malley, did you have any discussions with the plaintiff in this case, American Metal Climax? A. Yes, I did.

Q. And do you recall when you first began to have these discussions with American Metal Climax about a pot line? A. Throughout 1965, I would judge, and early '66, (578) perhaps through 1966.

Q. And what was the general—what were you trying, hoping to negotiate, or what were you discussing? A. Well, our discussions led to the fact that—or around the fact that we hoped to increase our aluminum consumption

to on the order of a hundred million pounds, and several discussions were made by them.

We pursued an exercise dealing with a pot line in Mississippi, one in the Ohio Valley. There were several Ohio locations that we discussed with them and we carried on the exercise of the financial program and the financial return, as I say, with respect to several sites.

Q. Did the negotiations for the two contracts that are the subject of this lawsuit, Mr. O'Malley, did they arise in any way, or did they have anything to do with these discussions about a pot line? A. Well, they arose because we knew the people and were working with the people at American Metal Climax, but they weren't related to the pot line in particular. They were related to a current need we had for rod.

Q. Do you recall when you actually put in an order for the Properzi, the model 8 Properzi? A. Probably, I would guess the summer—to the best of my recollection, it was in the summer of '65. I would think.

(579) Mr. Hamilton: Well, I think the record will show—and correct me if I am wrong, Mr. Topkis—but isn't it June 25, 1966? March 25, 1966 is the original purchase order.

Q. Is that about it? A. Well, that would put the discussions of it in early 1966, late '65.

Q. All right. And I think the record is also clear that you began to negotiate with American Metal Climax in approximately August of 1966 concerning the Intalco establishment.

Now, would you tell us, in general, how the negotiations with American Metal Climax, with respect to the Intalco operation, commenced? A. Well, I was carrying these negotiations on with two people in American Metal Climax, one, Mr. Stephen Furbacher, and a Mr. Kaufmann, and

because we were seriously discussing, as I say, this pot line, one of the suggestions that was made, in one of these meetings, was the fact that we had a Properzi on order and with respect to their pot line at Bellingham, Washington, we might install it there, and start receiving some rod from them.

And we did enter into a contract for that purpose.

(580) Q. And that was ultimately entered into in December of 1966? A. December of 1966, yes.

Q. Now, prior to actually entering into that contract, Mr. O'Malley, do you recall a discussion with Mr. Dunstan and Mr. Publow concerning the desirability of the AMAX contracts that were under negotiation at the time? A. Yes. We had to compare it with several other alternatives we had, and we did discuss these.

Q. Do you recall what conclusion you reached at the time of those discussions with Mr. Dunstan and Mr. Publow? A. Well, I reached the conclusion that I would like to do business with American Metal Climax, and to that extent I guess I overruled their objections to the contract.

They were promoting the possibility of a contract with alternate sources.

Q. Why did you overrule their recommendation of an alternate source? A. Well, I thought that this, this was an important factor in our relationships with AMAX and I wanted to continue the development of the pot line thesis with them. To me this was, as I say, the ultimate answer to our (581) achieving a long-term and low-cost aluminum source that we would need to compete in the markets we are in.

Q. After the contracts were negotiated with American Metal Climax, Mr. O'Malley, who at Essex was given the responsibility for complying with Essex's obligations under the contracts? A. Well, at that time I believe it would have been Mr. Richard Publow.

Q. Anyone else involved? A. Yes, Mr. Charlie Kilburn would have been involved as the engineer in charge.

Q. And Mr. Kilburn reported to Mr. Publow, is that correct? A. That's right.

Q. And what in general, was Mr. Kilburn to do as you understood it? A. Well, he was to be responsible to report to the Intalco location and take up residence there, and be in charge, to execute our part of the contract for the installation and the operation of the Properzi.

Q. And he did so? A. And he did so.

Q. Now, after the Properzi was installed, Mr. O'Malley, which the record will indicate was in the fall (582) of 1967, did you from time to time receive reports about the operations that were taking place at Intalco? A. Yes.

Q. Did you ever actually visit the facility at Intalco and review and look at the Properzi as it was functioning? A. I made two visits to Intalco; one to inspect the site originally before the Properzi was shipped there or received there, and the second visit was during the actual physical installation of the equipment itself.

Q. But it wasn't operating at that time? A. No, it hadn't started to operate at that time.

Q. After it operated, Mr. O'Malley, did you receive reports from Mr. Kilburn as to problems? A. Well, first from Mr. Publow, and they would have come from Mr. Kilburn.

Q. Did you ever talk to the Intalco people about any of those problems, yourself? A. No.

Q. Did you ever talk to the American Metal Climax people, to the best of your recollection, about those problems? A. No.

Q. Is your only knowledge of those problems essentially what you got from Mr. Kilburn, or Mr. Publow, or (583) Mr. Dunstan? A. Subsequently, Mr. Dunstan, yes; the three.

Q. Now, did there come a time, Mr. O'Malley, when a decision was made to terminate those two contracts? A. Yes, that is correct.

Q. And was that decision one that you made yourself? A. That is correct.

Q. And would you tell us how you went about making that decision? A. Well, I continued to receive the reports from the fall of '67 through April, May of '68, about the inability of the machine to perform in accordance with the specifications, and ultimately, of course, asked for a legal interpretation of the contract as to what our rights might be as a result of the machine not operating satisfactorily, and upon being assured that we had the right to terminate the arrangement because the machine did not perform, why, I made the ultimate decision to send the letter which terminated the agreement, attempted to terminate it.

Q. In reaching that conclusion, do you recall who you consulted at Essex? A. Yes, three people. At this time, Mr. Publow was gone. It would have been Mr. Dunstan, the lawyer that was involved for the legal interpretation was Mr. Seifert, and (584) Mr. Kilburn.

Q. Mr. O'Malley, I'd like to show you a copy of Exhibit P-92 in evidence, which is the letter signed by Mr. Dunstan, addressed to American Metal Climax, dated May 10, 1968.

Have you seen that letter before? A. Yes.

Q. And was this the notification that was given by Essex of the termination of the contract? A. That was the result of my decision.

Q. Do you recall receiving a response from American Metal Climax, Mr. O'Malley? A. No.

Q. I don't recall receiving a letter in response to that? A. I don't think I received a letter. I may have received one. I can't recall it right at the moment.

Q. Well, subsequent to this letter of May 10, 1968, Mr. O'Malley, did you have any conversations with American Metal Climax about the situation at Intalco? A. Well, in one way with respect to Intalco. About, I would guess, in June, Mr. Furbacher came to my office in Detroit, and we had a meeting which included Mr. Dunstan, who came in from Marion, Indiana, and the three of us had a (585) discussion relative to the purchase by AMAX of the unit that we had at Intalco.

Q. Tell us, to the best of your recollection, Mr. O'Malley, what the substance was of this discussion in Detroit on this subject? A. Well, the AMAX people felt that they had a market for rod in the northwest or at least on the West Coast, and appeared to have a serious desire to purchase that machine from us; or at least to purchase a Properzi machine, and, as I recall the conversation, as I recall the discussions, we came to no agreement but it was basically on price, that was the only issue involved.

Q. You did not come to an agreement, is that correct? A. No. We made an offer, they made a counter offer, but we were too far apart.

* * *

(588) Q. Now, Mr. O'Malley, there has been some testimony in this case about the Alcoa contract which was signed in December of 1967. Did you have any role in the negotiations of that contract? A. Yes. I was the principal involved.

Q. Now, that Alcoa contract, Mr. O'Malley, has been introduced here in evidence as Exhibit P-53, which is a letter agreement dated September 27, 1967, and another agreement, formal agreement, dated December 26, 1967. What was Essex's objective in entering into this relationship with Alcoa? A. By this time we had, as I testified earlier, carried on these negotiations with several people, including AMAX, with the desire of developing a plan for

an aluminum pot line. It appeared at this time that this was going to (589) be either something we could not arrange or negotiate or program. As a result, to try to achieve this goal of a long-term supply of low-cost material, I negotiated this contract with Alcoa for the material over and above what we were buying from AMAX.

Q. Did there come a time, Mr. O'Malley, in 1968, when you felt you had a surplus of aluminum? A. No.

Q. Mr. O'Malley, let me show you a copy of an exhibit, which is P-71, dated April 8, 1968, from Mr. Dunstan to you, and you will notice under subparagraph 2, he refers to a surplus of aluminum. Was it your view at this time that you had a surplus of aluminum? A. No.

Q. Why not? A. Well, we recognized earlier in developing these markets and in building up the consumption of our Paducah plant, it was going to be necessary to consume this material in another fashion.

And in order to implement this we had started on an acquisition program in '66 by way of surveying, and I think we made our first acquisition of an aluminum extruder in 1967.

In this period I was continuing to investigate (590) the possibility by acquisition of acquiring another aluminum extruder. This was with the avowed purpose of using up this aluminum that we knew we were going to have to contract for in order to achieve this high consumptive level that I was discussing.

Q. At any time in 1968, Mr. O'Malley, were you of the conclusion that you had an excess of aluminum? A. Well, we had an excess momentarily in the beginning of that year, but there were other factors also. I think that was the year we were looking at an aluminum worker's strike that was going to take place in June, so the 3,000,000 or 5,000,000 didn't represent a surplus to me. We had two factors: A potential June acquisition of another extruder and the fact we were preparing for a strike.

Q. Did you make that acquisition in June of another extruder? A. Yes.

Q. Do you remember the company that was? A. I don't remember the name of it. It was American something. The physical location of the plant was in Coldwater, Michigan. I think it was American Reduction.

Mr. Hamilton: No further questions.

* * *

(592) Mr. Hamilton: Next witness is Charles Kilburn.

CHARLES V. KILBURN, called as a witness on behalf of the defendant, after being first duly sworn, testified as follows:

Direct examination by Mr. Hamilton:

Q. Mr. Kilburn, by whom are you currently employed? A. Essex International.

Q. What position do you presently have? A. Manager of Engineering for the Metals and Mining Division, Metallurgical and Mining Division.

(593) Q. When were you first employed by Essex? A. 1953, January.

Q. And what is your educational background? A. Where would you like me to start, high school, college?

Q. College. A. I went to Michigan State University and received a bachelor of science degree.

Q. When did you get out of Michigan State? A. 1939.

Q. And tell me just in general terms, what you did between 1939 and 1953, when you came to Essex? A. Well, I was chief engineer for the Detroit Electric Furnace Division of Kuhlman Electric Company, which is a company that manufactured and marketed metal melting furnaces, electric melting furnaces which serviced the foundry trade.

Q. Were you with them throughout that period of time? A. Thirteen years, until 1953, yes.

Q. Now, what was your initial position in 1953 at Essex? A. It was in the form of approach engineer to get the foundry—we had a brass foundry in Goshen, Indiana—(594) to get in on a good operating basis.

There had been problems there. And this was my first function.

Q. Would you start there, then, Mr. Kilburn, and give us the jobs—give us your history of employment at Essex from this initial position onward. A. At that very time we had on order a number 6 Properzi, so it became my designated responsibility to plan for the installation of that, as well as the foundry job. But I was soon made manager of the plant at Goshen, which further encompassed, besides these two things, the installation of wire insulating equipment and the assembling of harnesses, and so forth, for the automotive field.

Q. Go ahead, Mr. Kilburn. A. So this was a new plant, and it was my responsibility to install this—see that the equipment was installed and put into an operating plant.

Q. Now, this was a Properzi at this time? A. A Properzi was one of the departments.

Q. Did you have a Properzi in operation at this time at the Goshen plant? A. Not prior to my coming there.

Q. I see. A. I supervised the installation and start up and (594a) the subsequent operation.

Q. And that was a model what? A. A model number 5.

(595) Q. Now, would you tell us, Mr. Kilburn, just in general terms, before you go on with your job description, how a Model 5 Properzi differs from the Model 8 Properzi that was ultimately installed at Intalco? A. Well, of course, the rating was quite a bit smaller. It was in the area of 2500 pounds per hour. The principle of making a casting and rolling it is essentially the same. The equipment was entirely different.

Some parts of it you would hardly recognize. It was a different type of casting and pouring mechanism. The rolling mill was similar in principle, but it had a much smaller drive, for instance, 150 horsepower, I believe it was, compared to 750 for the Model 8.

There were no coilers involved. We coiled the rod in a basket. When I say "basket," that's a technical phrase for a frame which would constrain the rod as it came out of the machine.

Q. Well, did this machine start with hot metal, Mr. Kilburn, and end up with rod like a Model 8? A. No. We started with pig, aluminum pig, and we electrically melted the metal in an induction furnace, then cast it—casting from the Properzi wheel.

Q. How long were you involved with the operation (596) of this Model 5 Properzi, Mr. Kilburn? A. We had it in Goshen until approximately 1957.

Q. Were you plant manager throughout this time at Goshen? A. No, there was a period—I think it was probably early 1957, when I went into a staff position in a division.

Q. And what were your duties in that position, Mr. Kilburn? A. Well, it was a newly formed division. It was formative. I was to do all the mechanical engineering phases of the division work.

Q. What was your next position after this staff position, Mr. Kilburn? A. Well, the next one was, we built a rolling mill, copper rolling mill in Marion. In fact, I think that was one of Mr. O'Malley's projects, and I was assigned to do some technical work there. And after a month or two at that, he appointed me as manager of this rolling mill, which we called Rods Incorporated as a company name.

I managed this rolling mill for approximately seven years.

Q. Approximately seven years.

(597) What was your next position, Mr. Kilburn, after you left—A. I had a brief assignment—we had just begun to do some planning on a processing operation to salvage our scrap wire and obtain the copper from it. We called it Process Materials; again this was a company name.

It was my job to get the equipment in and get that installed and get it debugged and start up and getting the plant in operation, which I did for approximately a year and a half. I operated that plant as its plant manager.

Q. Mr. Kilburn, where are we in time now? A. This would be approximately 1964 or '5.

Q. Would you tell us what position you took thereafter? A. Well, Mr. Dunstan had joined the organization; Mr. O'Malley was then either a vice-president or president, and I worked then for Mr. Dunstan. And he assigned me to be the project director in installing another copper rolling mill at a plant we had in Three Rivers, Michigan. This project took about a year and a half.

We completed that plant and got it on stream.

(598) Q. After doing that, Mr. Kilburn, what was your next position? A. The next one was the assignment to work on the aluminum Properzi project.

Q. At Intalco? A. Well, originally we were thinking in terms of putting it at our Paducah plant.

Q. But, ultimately, this is the Properzi operation that was installed at Intalco? A. Right.

Q. Following the termination of the contracts between Essex and American Metal Climax at Intalco, Mr. Kilburn, what was your next position? A. Well, I was assigned to take this equipment and install it at a new plant, which we had to build, which we did build, and install the Properzi equipment and some billet casting equipment, to get it in operation and to manage the plant.

Q. That was the operation at Boonville? A. Right.

Q. How long did you stay at Boonville? A. I think it was three years.

Q. When did you leave? A. 1971.

(599) Q. And what position did you take at that time? A. I was assigned the job of installing some similar type of equipment in the copper end of the business. That was in Rockford, Illinois. That was a project that took approximately a year and a half, again, to do. We built the equipment ourselves. We have a plant that builds machinery. It was my job to see that this equipment got built, delivered to the site, installed, started up to train the crews and get it into operation, and then turn it over to the operating people.

Q. From there did you go to your present position, Mr. Kilburn? A. That's right.

Q. Now, when did you first learn of Essex' interest in a Properzi machine, over and above the Model 5 Properzi which you have already talked about? A. Oh, I would say that it must have been late '65 or early '66 when we began shopping the field for the type of machine that we wanted to buy.

Q. What responsibility were you given at that time, if any, in connection with finding Properzi equipment? A. Well, I was supposed to scan the market, find (600) the best equipment for that and see that it got purchased and installed and operating.

Q. Who did you contact in that connection? A. Nichols Aluminum—you mean with regard to Properzi?

Q. Yes. A. Yes, I contacted Nichols.

Q. Did you also consider other types of equipment? A. Yes.

Q. What Properzi model were you interested in at that time, Mr. Kilburn? A. Well, their latest model had been a Number 7, and we were talking in terms of their Model No. 7.

Q. Do you recall when you first learned of the Model 8 Properzi? A. Well, I had received quotations on the

Model 7 and was in the process of making layouts and having discussions, when Jim Morris of Nichols informed me that Properzi had a new Model 8, which had a lot of desirable features on it, which was going to have a much improved production rate, and wanted to know if we would be interested, and we said yes, we would like to get that model.

Then our interest changed to the Model 8.

(601) Q. What were the features about the Model 8 that interested you? A. Well, probably the most prominent one and the one which would promote the increased rate was a feature they call their secondary cooling. Mr. Properzi had a patent on this, and it centered about the fact that before the casting emerged from the wheel, as it did in the previous models, that they would hold the belt away from the wheel and give it an intense spraying of water which would promote the faster cooling, and thus allow you to have a faster production.

Q. What was the production rate of the Model 7 Properzi, do you recall, Mr. Kilburn? A. I recall it was in the order of eight or nine thousand.

Q. Pounds per hour? A. Pounds per hour.

Q. Did you order a Model 8? A. Yes, we did.

Q. And where was it planned to install that piece of equipment? A. I think we started some planning on that at Paducah. There were several possibilities we had at the time. One was our Tiffin plant, another one was (602) Paducah. It was decided that the new Paducah plant would be the place for it. Q. Did there come a time when you were advised that it was going to go not to Paducah but to Intalco? A. That's right.

Q. Would you tell me how you learned—first learned of the plan to install the Model 8 Properzi at Intalco? A. Well, as I recall, Mr. O'Malley had myself and Mr. Dunstan, Mr. Publow, perhaps Mr. Murray—I'm not sure—at a

meeting in his office, and he said that he made a deal with American Metal Climax and we have a contract for metal, we are going to install the Properzi at their plant in Intalco, Ferndale, Washington. He said this contract is for five years. We will get this going. Our plans are that we will have a pot line. We will probably pull it out and move this to the pot line.

Q. Were you given any responsibilities at this time with relation to the Properzi at Intalco? A. Yes. Mr. O'Malley said, "Charlie, we will count on you to do this work."

Q. By "this work," what did that mean? A. Installation, start-up, the training of the (603) people, and so forth.

Q. What was the first step that you took, Mr. Kilburn, in carrying out your responsibilities with respect to the Intalco operation? A. Well, the first thing we had to do was to make a layout, see how the equipment would fit into the Intalco plant. This consisted of fitting the various components on a floor plan. Properzi, you see, didn't furnish the equipment for melting, for instance. He didn't furnish certain filtering equipment for the emulsion. So we had to buy some of it ourselves.

So my job was to line up the other equipment we were going to buy as auxiliaries for the Properzi, fit it all into a map—if you would call it that, for the sake of understanding—as to where it would all fit in the plant, how it would lay out.

This was my first job.

(604) Q. Who was the contractor at the job, Mr. Kilburn, do you recall? A. Well, in dealing with the Intalco people, or rather the AMAX people, I should say, they were in the process—they had just completed putting in the first pot line at Intalco, and they were in the process I think, of building the second, and had a third one

planned, and the prime contractor was Bechtel, who was a construction company located in California, and it was suggested that we perhaps could use Bechtel to do this installion work, because they were familiar with the various ground rules and had worked with Intalco, and from the standpoint of understanding, why, it would be best, it would be nice if we could use Bechtel.

Q. And so you did use Bechtel? A. We proceeded to arrange with Bechtel to do this work.

Q. Now, in order to do the initial layout work, Mr. Kilburn, was it necessary to get anything from the Properzi people? A. Oh, certainly, we had to have dimension drawings, the components. We had to have foundation information. We had to have piping arrangements. We had to have electrical arrangements. We had to have (605) anchor bolt plans, this sort of thing.

Q. Did you have any problem in getting this layout information? A. Yes. I had a great deal of trouble.

Q. Would you describe for us the nature of the problems which you had? A. Well, my contact was through Nichols, and they, in turn, would try to get this information from Intalco and I had a great deal of calling and letter writing, and so forth, asking for this kind of information and that kind of information, and it was like pulling teeth to get it. It was meted out very piecemeal.

Changes were made in the process. And, actually, I had to kind of guess at some of it, and use my best judgment, because I never did get complete enough plans to have the complete layout information.

Mr. Topkis: Excuse me. I think either I misheard or the witness misspoke himself.

Were you having this difficulty with Intalco or with Properzi?

The Witness: Properzi.

Mr. Topkis: That's what I thought, but I thought I heard him say Intalco.

(606) Mr. Hamilton: You may be right.

Q. You were having these discussions, not with anyone at Intalco, but with Properzi people; is that correct? A. That's right.

Q. Or the Nichols people; is that right? A. That's right, yes.

Q. Now, Mr. Kilburn, let me hand you Exhibits D-205, D-206 and D-208.

Do these exhibits all relate to your communications with Properzi or Nichols in an effort to obtain these layout drawings and the layout information necessary for installation? A. Yes, this is certainly some of it. There were additional calls and verbal conversations, in addition.

Mr. Hamilton: I offer D-205, D-206 and D-208 in evidence.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibits D-205, D-206 and D-208 received in evidence.)

Q. Mr. Kilburn, do you recall what your initial anticipated schedule was insofar as installation and operation and so forth was concerned at Intalco? A. Well, after the order was placed, the (607) indication, as I recall, was that we could expect the equipment in January of 1967, and we figured that it would take, at most, a couple of months to install it and do a little debugging, get it started perhaps in March.

Q. Did you have any feeling at that time as to how long it would take once you had it ready for operations to get the equipment to really function properly? A. Oh, I assumed it would take about six weeks. This is what you would expect.

Q. Do you recall when, in fact, you did have the equipment installed, approximately? A. Well, when it was

finally installed, it was approximately the latter part of October, maybe even the first of November, in '67.

Q. Some nine months later, I presume; is that correct? A. Yes.

Q. Tell me, Mr. Kilburn, did you, prior to completing your installation, did you get all these layout drawings that you needed and that you had requested? A. No, I didn't. And, as a matter of fact, I got some that turned out to be an error.

(608) Q. Do you recall what those were? A. Well, there was a plan for laying conduits in, which is the—of course, what you encase the electrical wiring in, and, in fact, when the equipment arrived, I found that I had to make a lot of alterations in the conduit layout I had, which involved extra work.

I also found out, incidentally, that when the equipment came, they thought I had received certain electrical drawings and they weren't anyplace to be found, had never been transmitted.

Q. Now, you told us about the problems you had with the layout drawings, Mr. Kilburn. Did you also experience delays in actual shipment of the equipment? A. Yes. That was as bad as the drawing situation. I kept calling them and corresponding with them as to the shipments, and they kept giving us later and later dates, putting us off a few months at a time.

Q. Were you ever advised, Mr. Kilburn, as to the reason for the delays in shipping the machinery? A. Well, I understood that they had some design problems.

Q. What sort of design problems? A. Well, apparently they couldn't get this secondary cooling to work.

(609) Q. Mr. Kilburn, I show you Exhibit 239, which is a letter from Nichols Aluminum to you dated June 20, 1967, which discusses the shipment schedule, and the fourth paragraph reads as follows:

"Continuus encountered some problems with the secondary cooling system and more experimentation is required to establish the proper belt thickness and width for a productive operation."

Do you remember receiving that letter, Mr. Kilburn? A. Yes, I do.

Q. And is this the design problem that you have been talking about? A. I think that this was probably put to me as the main one. There may have been others. I do not know.

Mr. Hamilton: I offer D-239 in evidence.

Mr. Topkis: I have no objection to the receipt of the exhibit, your Honor, as proof of the fact that such a letter was sent and received. But I certainly would object to its use for a hearsay purpose, namely, to prove the truth of anything that they know.

The declarant is not in court and not available to me. I also don't think it makes any difference (610) as to a matter of relevance, but I'm passing that.

Mr. Hamilton: By passing it, are you withdrawing your objection?

Mr. Topkis: No, no. I say I object to its receipt for a hearsay purpose. I do not object to its receipt for a non-hearsay purpose, namely, that the letter was received.

Mr. Hamilton: I only offer it, your Honor, as the information that Mr. Kilburn was given by Nichols as to the reason why the equipment was delayed.

The Court: All right.

(Defendant's Exhibit D-239 received in evidence.)

Q. Did you complain, Mr. Kilburn, about the delays in shipments from Properzi? A. Yes, I did.

(611) Q. Did you complain orally or in writing, or both? A. Both.

Q. Do you recall how often you complained? A. By telephone, quite often. By letter, perhaps two or three times. I am not sure.

Q. Let me show you, Mr. Kilburn, a letter dated July 5, 1967, from you to Nichols, which is Defendant's D-118, and I ask you if that is a letter which you sent. A. Yes, I did. Yes. At that time I was very disturbed about the whole situation.

Mr. Hamilton: I'd like to offer Exhibit D-118 in evidence.

Mr. Topkis: No objection.

(Defendant's D-118 received in evidence.)

Mr. Hamilton: Your Honor, the last two or three paragraphs of that letter I think are particularly relevant insofar as they relate here to Mr. Kilburn's complaints to Nichols about the delays in shipment and the design problem on the secondary cooling system.

Q. Did you also have telephone calls, telephone conversations with Nichols Aluminum people on this subject, of equipment delays, Mr. Kilburn? A. Yes, I did. I talked with Mr. Morris. They told me that they would send—when I would call, they told me, (612) "Well, we will send a wire and see what the status is." And I am sure they had many inquiries to Properzi themselves.

You see, we were not the only one involved. There were three of those being built.

Q. Mr. Kilburn, do you recall when the first shipment of equipment actually arrived at Ferndale? A. I would

guess the first shipment might have arrived in July or August. This is just recall from memory.

Q. Mr. Kilburn, let me show you a copy of Exhibit P-48 for identification.

I ask you if you can tell me, in general, what that exhibit is. A. Well, the first page is an inventory. The second group of pages are my daily production summaries with a few notes. Further on is kind of a chronological summary of what happened.

Q. Now, looking at the seventh page of Exhibit P-48, Mr. Kilburn—are these your notes on that page? A. Yes.

Q. Can you tell from that when the first shipment of Properzi equipment arrived at Intalco? A. 8/24, August.

Q. August 24, 1967, that would have been? A. Yes.

(613) Q. Where did these materials which are accumulated in P-48 come from, Mr. Kilburn? Is this your file? A. Yes. Which right here?

Q. Yes, the whole Exhibit P-48. A. Well, some of it is in my writing, and some of it were reports that C. K. Li prepared.

Q. Does it all relate to the operation at Ferndale, Intalco? A. Yes.

Mr. Hamilton: I'd like to offer P-48.

The Court: Any objection?

Mr. Topkis: Your Honor, I must confess that I have not gone through these in anticipation of this offer. Could I do so during the luncheon recess and comment on it then?

I think I will have no objection, but I just want to be sure.

The Court: All right.

Q. Now, Mr. Kilburn, the first shipment of equipment arrived on August 24, 1967. What was your understanding at that time as to the design of the equipment; was it

finished, was it still being designed, was it in an early stage, a late stage? What was your understanding? A. Well, certainly the secondary cooling thing (614) hadn't been resolved. They told me that.

Q. I beg your pardon. A. They informed me of that.

Q. Did you have any other information concerning the status of the design of the Properzi equipment? A. I don't recall.

Q. Mr. Kilburn, let me show you Exhibit D-248, which is a letter from Nichols Aluminum to you, dated September 11, 1967, and let me read you just a paragraph from that.

"This is to confirm that with the initial shipment of Properzi Number 8 Casting Machine, you will receive two types of ring molds. One is the conventional pentagonal shape, the other trapezoidal. The latter will be mounted on the casting machine. Continuus was not able to fully establish a preference between these two designs based on the test work at the factory. In effect, Continuus is asking you to assist in the evaluation of the molds. We regret this inconvenience, but we assume that Continuus had no alternative."

Now prior to receiving that letter, did you know that the ring mold design had a problem? A. No. The ring mold and the cooling all kinds of tie in together.

Q. There is a handwritten note on the bottom of (615) D-248, Mr. Kilburn. Can you recognize that handwriting? A. I think that is Jim Russell's. I can't be sure.

Q. Would you read it, please? A. It says, "Charlie, Alcoa and General Cable are in the same boat."

I assume it is his because he sent me the letter and just added the little hand note wh[illegible]e signed it.

Mr. Hamilton: I offer Exhibit D-248.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D-248 received in evidence.)

Mr. Hamilton: Your Honor, at this point, I'd like to read a paragraph of Exhibit D-247, which is one of the exhibits introduced in connection with the Nichols depositions, and Mr. Topkis has informed me that he has no objection to any of those exhibits. We were going to have them marked during the recess. This is a letter dated August 29, 1967, from Mr. Morris to a Mr. Milton H. Nichols in London.

He says the following:

"In a discussion with Donini regarding the mold design and spare molds, he tells me now that the molds that are shipped with the equipment are experimental and they really haven't finalized on the mold design. This is (616) going to be great."

* * *

(617) Q. Just before the luncheon recess we looked at a letter, Exhibit D-248, which indicated that the initial molds being shipped with the Properzi equipment were (618) experimental.

Do you recall whether or not the molds that you actually received with the equipment were experimental? A. They were the type that they had described as being experimental.

Mr. Hamilton: I would like to offer Exhibit D-247 in evidence, which is a letter from Nichols to Mr. Kilburn dated September 18, 1967, also commenting upon the experimental molds that are being supplied with the original equipment.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D-249 is received in evidence.)

Q. Now, Mr. Kilburn, can you recall when your installation of the equipment was completed and you were actually ready to start running the machinery? A. I think I recalled it this morning as being about the end of October, perhaps the first of November.

Q. Let me show you Exhibit P-48, Mr. Kilburn, and see if you can tell from that exhibit when the installation was completed and you were ready to start operating the equipment? A. Well, we had it ready, according to drawings and information we had, on the 30th, but I got a call from (619) Mr. Russell, who was starting equipment up at another plant, and he had some last minute changes to be made which he gave over the phone so that we would be ready for him. And that was the time 11/30 to 11/1.

Q. This is November 30 to November 1, and when did you start to operate the equipment? A. My record indicates we made the first casting on the third of November.

Q. And the first rod was made when? A. On the 14th.

Q. The 14th of November? A. Right.

Mr. Hamilton: Your Honor, I would like to read a couple of paragraphs from Exhibit D-251, which is a letter dated December 5, 1967, and it is from Mr. Properzi to Nichols Aluminum.

Skipping the first paragraph, "In my opinion, the deformation of the ring molds at General Cable is due to the cooling of the groove after a point where the cast bar leaves the ring mold."

Skipping several paragraphs:

"In some experimentations of ours, we found out that the mold had a tendency to shrink (to contract toward the center of the wheel) while in other experimentations we (620) had exactly the opposite result. This fact induced me to decide for this new system. I hope that after some practice it will be

possible to control the cooling conditions by relating them to the deformations observed. I also hope to be able to supply ring molds having a higher resistance to softening, using alloys, which shall not, however, considerably reduce the thermal conductivity. I would, of course, appreciate if you could continue to follow closely these very interesting developments, both from a technical and commercial point of view, in this first operation stage of the model 8 machine. Thank you for encouraging cooperation and I would ask you to keep your fingers crossed for some time."

I would like to offer Exhibit D-251 in evidence.

Mr. Topkis: I have no objection, your Honor, except to its receipt for a hearsay purpose. I have no question that Mr. Properzi wrote that letter to somebody at Nichols.

The Court: All right.

(Defendant's Exhibit D-251 is received in evidence.)

Mr. Hamilton: Then, your Honor, I would like to read from the response to that letter, which is a letter dated December 14, 1967, from Nichols to Mr. Properzi, (621) Exhibit D-252.

Mr. Topkis: Excuse me, Mr. Hamilton, just in the interest of shortening things, I have told Mr. Hamilton I have no objection to the receipt of any of these documents. They unquestionably reveal there was correspondence going back and forth as to asserted deficiencies in the Properzi machine and I don't challenge that. I wonder whether we couldn't just receive them in bulk and pass on to the live testimony, so we can get done today, which is our common ambition, I believe.

The Court: That does seem like a good idea, Mr. Hamilton.

Mr. Hamilton: I could do that, your Honor. I had them set up to bring in simultaneously what Properzi was telling its agent with the problems that Mr. Kilburn was experiencing when he was trying to operate the machine. He was having all of these problems which he will testify about. And here is Properzi telling Nichols simultaneously about all the experimentation they are doing and the problems that they are having, going to the issue of a lack of design on the machine.

Now, I can do that in a brief, I suppose. I think it is a more effective presentation to do it in this fashion.

(622) The Court: All right, do it your way.

Mr. Hamilton: I only have a few of these that have quotes of this kind and the rest of them wouldn't be nearly that extensive.

This is December 14, 1967, Nichols to Properzi, D-252.

"We fully understand your desire to have our customers exercise more patience on this whole running mold and cooling problem on the number 8 machine, but I fear our customers are finding it too costly to be patient any longer. Hence, my lengthy letter to you of yesterday. We must get them into production and soon. Alcoa is ordering six ring mold blanks. Though nothing was said directly to me, we strongly suspect that Alcoa is already proceeding with the design of their own casting wheel and mold."

Then skipping a few paragraphs, "Reverting to your present casting wheel and mold design, I would tell you that we had no preconceived ideas about

the pros or cons of using thin-walled molds. There is also room for improvement in most any piece of equipment, and your present wheel and mold has some attractive features, but the facts of the matter are it is not standing up on a production basis, or, for that matter, on assembly production basis. Furthermore, if the system is made operable under certain and (623) strictly controlled conditions, there are indications that the system might be too sensitive to the various processes variables to permit adequate control on a week-by-week basis by regular production personnel.

"Be that as it may, I am not suggesting you abandon your basic concept at this time. What I and my colleagues here at Nichols are suggesting, is that you proceed immediately with the design and construction of a wheel and cooling system which has already proved satisfactory for production use.

"Later on, as time permits, you can make the modifications and refinements to your present system which you now consider necessary or appropriate. When this work is done and after you have tested the system, insofar as you are able to test it in your shop, I believe we could strike a deal with one of our number 8 customers whereby the system could be tried on their equipment. A customer is always more willing to experiment in order to improve something if he knows he has a production process that will work at least reasonably well than if he doesn't. This is only logical."

Then it goes on. That's essentially it.

I offer Exhibit D-252.

Mr. Topkis: No objection.

(624) (Defendant's Exhibit D-252 is received in evidence.)

Q. Now, Mr. Kilburn, I would like to show you a copy of D-254, which is a letter you received from Nichols on January 16, 1968.

I just want to read to you the second paragraph of that letter. The first paragraph encloses some drawings on the ring mold and assembly and the second paragraph reads, "The obvious changes reflect the most recent thinking on the number 8 ring mold."

Now, this is January of 1968, Mr. Kilburn. Were you trying to operate the machine at Intalco by January of 1968? A. Oh, yes, we had been trying since the first of November continuously.

Q. And was Nichols supplying you with "the most recent thinking" as this most recent thinking developed? A. Well, I don't know as I fully understand the question. They hadn't supplied us anything until they suggested a complete change in design.

(625) Q. Was that later than this, Mr. Kilburn, to the best of your recollection? A. Yes, I'm sure it is, because this is a Properzi number, and Properzi never did give us the drawing which showed the wheel that we had the best luck with.

Q. Do you have any recollection of what the most recent thinking referred to in that letter was? A. Well, they state the three things here. "The bottom side of the mold lips is radiused to eliminate the notch effect." In other words, instead of having a square corner, they put a radius on it.

"The intersteel bolt ring is reduced in diameter and is beveled and rounded off at the top to allow free circulation of water along the top. The diameter of the side plates is reduced to permit better heat transfer by radiation, convection through the rim of the mold."

Q. Let me ask you this, Mr. Kilburn: Subsequent to this date, January 1968, did you get additional refinements or ideas from Nichols on ring molds? A. Yes.

Mr. Hamilton: I offer Exhibit D-254.

The Witness: Apparently it was an intermediate, (626) very moderate change which didn't do anything, either.

Mr. Topkis: No objection.

(Defendant's Exhibit D-254 received in evidence.)

Q. Mr. Kilburn, were you here when Mr. Briggs testified? A. Yes, sir.

Q. Do you recall him testifying concerning the problem that Intalco had because they didn't have the maintenance and design drawings that were necessary for them to be able to adequately maintain the equipment? A. I heard him testify to that effect, yes.

Q. Had you made any efforts, Mr. Kilburn, prior to January 1, 1968, to obtain the maintenance and design drawings for the equipment? A. Oh, I had been after them continuously on that point because, I, too wanted these drawings.

Q. Do you recall when the first time was that you requested the maintenance and design drawings? A. I don't recall the date.

Q. Let me show you Exhibit D-215, Mr. Kilburn, which is a letter from Nichols Aluminum to Properzi, dated August 8, 1967, which begins, "We have received a request from Essex Wire concerning the availability of instruction of manuals, manufacturer's descriptive (627) literature, and other type of information," et cetera.

Is that about the time you requested these maintenance and design drawings, Mr. Kilburn, do you recall? A. Yes, but I think I had been requesting it even before that.

Q. Even before this? A. To my recollection, yes.

Q. Had you gotten them? A. No, the important ones, or not complete. We never did get any instruction manuals.

Mr. Hamilton: Let me offer Exhibit D-215.

Mr. Topkis: For non-hearsay use I don't object to it, your Honor.

(Defendant's Exhibit D-215 received in evidence.)

Mr. Hamilton: Your Honor, I would like to read very briefly from Exhibit D-216, which is a Telex from Nichols Aluminum to Properzi, dated September 5, 1967. It starts out, "Re: Essex Intalco. Please airmail immediately to Intalco at Ferndale, Washington, a complete set of all available drawings covering Model 8 equipment, including electric. These drawings are to be certified. Mr. Kilburn is very angry, as drawings were supposed to have been mailed a week ago. (628) Also please advise when spare part manuals and other manuals will be ready." The Telex goes on.

Q. Are these the kind of complaints you had been making, Mr. Kilburn? A. Yes, very definitely.

Mr. Hamilton: I offer in evidence Exhibit D-216.

Mr. Topkis: No objection.

The Court: As you say, these are being offered to prove what, Mr. Hamilton?

Mr. Hamilton: They are being offered, your Honor, to prove that there was a problem between Nichols and Properzi; that Nichols was trying to get information from Properzi in order to comply with requests from Mr. Kilburn.

These are all exhibits that were marked during the depositions of these Nichols people and they were questioned about them at that time, in general terms at least.

The Witness: Your Honor, I had been continually harassed for these drawings, so I, in turn, was trying to get them, as Mr. Briggs stated.

Q. Now, Mr. Kilburn, I think you mentioned a few minutes ago that when you finally got a shipment of equipment at one point, the drawings were supposed to be (629) in the shipment, is that correct? A. Yes. That's what they had told me.

Q. They had told you that? A. Yes.

Q. Do you recall whether or not the drawings were in the shipment when they got there? A. No, they were not.

Q. Did you complain about that? A. Yes.

Q. Who did you complain to, do you recall? A. Mr. Morris, I believe; Nichols.

Mr. Hamilton: I would like to offer Exhibit D-217 in evidence.

I withdraw that.

Q. Do you recall when this was, Mr. Kilburn, approximately? A. Well, it would have been after the shipment arrived. I don't recall the exact date.

Q. Well, let me show you, Mr. Kilburn, a letter dated October 24, 1967, Exhibit D-217, which is a letter from Mr. Morris to Properzi. The second paragraph reads as follows:

"As you can see under Essex we noted there were in the crate all the blueprints for the mill, the (630) lube, the emulsion system, the caster, and the electric. I just talked to Charlie Kilburn today and he advised me there were no blueprints in the crates."

Are those the blueprints you have been referring to, Mr. Kilburn? A. Yes.

Q. This was on October 24, 1967? A. Yes.

Mr. Hamilton: I would like to offer Exhibit D-217 in evidence.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D-217 received in evidence.)

Q. Now, thereafter, Mr. Kilburn, did they send you any of these design and maintenance drawings? A. In due time, I believe they sent us most of them. But that strung on into the spring, or later.

Q. It strung on into spring or later. Is that your best recollection? A. Yes.

Q. Let me show you Exhibit 218, Mr. Kilburn, which is a letter dated November 30, 1967, from Nichols to you, indicating that drawings have been forwarded from Properzi and attaching a list of the drawings. (631) Is that correct? A. But this is not the complete set of drawings.

Q. This is the first installment; is that correct? A. This is a good portion of them but not all of them. Of course, those were made available then to the Intalco people.

Mr. Hamilton: I offer it.

Mr. Topkis: No objection.

(Defendant's Exhibit D-218 received in evidence.)

Q. Mr. Kilburn, you said you did make some available to Intalco. Do you recall when that was? A. Well, whenever I got them, I immediately transferred them to them because they had been after me for them.

Q. I show you, Mr. Kilburn, a letter dated January 17, 1968, from you to Mr. Cheatham at Intalco and I ask you if this is when you gave him the maintenance and design drawings that you had. A. Yes, this would have included everything I had up to date.

Q. Would you look at the last paragraph of that letter, Mr. Kilburn, and does that indicate that you gave anything else to Intalco? (632) A. I gave them instructions on the hydromation.

Mr. Hamilton: I would like to offer Exhibit D-184 in evidence.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D-184 received in evidence.)

Q. I think you just indicated, Mr. Kilburn, that these efforts by you to get these drawings continued for some time; is that correct? A. Yes.

Q. I would like to show you Exhibits D-219, 221 and 222. Do these all reflect shipments of drawings by Nichols to you on the dates indicated? A. Yes.

Q. Now, the last of those exhibits, D-222, is dated April 30, 1968, and the last sentence is—in the letter from Nichols to Mr. Kilburn, "You should now have a complete set of maintenance and assembly drawings." Is that correct? A. Yes.

Q. Is that about the time when you in fact did have a complete set for the first time? A. Yes.

Mr. Hamilton: I would like to offer D-219,
(633) 221 and 222 in evidence.

Mr. Topkis: No objection.

(Defendant's Exhibits D-219, 221 and 222 received in evidence.)

Q. Now, Mr. Kilburn, I think Mr. Briggs referred to a lack of spare parts and spare parts information during his testimony. Do you recall that? A. Yes, I do.

Q. Had you been making any efforts to obtain spare parts and spare parts information from Properzi? A. Yes.

Q. Do you recall when you first started your efforts to obtain spare parts? A. Well, I think we ordered very early—perhaps even before we went to Intalco, $75,000 worth of spare parts, which was the first recommended list that we were given.

Q. Mr. Kilburn, I show you Exhibit D-224, which is a letter from Nichols Aluminum to you, enclosing a quotation on the latest information on spare parts. Is that the quotation that you just referred to?

I also show you Exhibit D-225, which, I believe, includes the order Essex placed for those spare parts. A. Well, this is a list of the recommended spare.

(634) Q. The first one, Exhibit D-224. A. Yes. And we ordered it—

Q. And isn't Exhibit D-225, dated March 6th, 1967, your order for those spare parts? A. Yes, that's right.

Mr. Hamilton: I would like to offer Defendant's Exhibits D-224 and D-225 in evidence.

Mr. Topkis: No objection.

(Defendant's Exhibit D-224 and D-225 were received in evidence.)

Mr. Hamilton: Now, your Honor, I would like to read just a sentence or two from Exhibit D-226, which is a letter dated July 26, 1967, from Nichols Aluminum to Properzi.

After referring to a delay in shipping Alcoa's casting equipment, Mr. Morris goes on:

"He also advised me that the spare parts for Essex, Alcoa and General Cable will not be delivered until December or January. I know the equipment is new and there are many problems in the production of new equipment. However, I think it is only proper for me as your agent to inform you of the reaction of your customers in this country. They are all becoming very critical of the late delivery which may affect future orders. Also, if after they start up (635) the equipment they are forced to shut it down for lack of spares, I hesitate to think what their reaction is going to be."

I would like to offer Exhibit D-226 in evidence.

Mr. Topkis: No objection.

(Defendant's Exhibit D-226 was received in evidence.)

Q. Now, did you continue, Mr. Kilburn, during the summer of 1967, to request spare parts and spare part information from Nichols Aluminum? A. That is right.

Q. Do you recall whether or not they ever advised you when these spare parts or spare part manuals would be shipped? A. I don't recall what their promises were. I know that whenever they had given us spare parts recommendations we ordered them without delay.

Q. Do you recall whether they promised delivery dates to you of those spare parts? A. Oh, I think the delivery dates were quite lengthy. We got them in different groups.

Q. Yes, I understand, Mr. Kilburn.

Mr. Hamilton: I would like to read from Exhibit D-227, your Honor, which is a memorandum from Nichols (636) Aluminum, dated August 2, 1967. It reads as follows:

"Received request from Essex as to the date of shipment of their spare parts on their order P8249 (which is the previous order in evidence.)"

On August 10, 1967, Exhibit D-230, Nichols informed Mr. Kilburn:

"We have just been advised by Continuus that your spare parts of the Model 8 equipment will be ready for delivery within the month of October. Of course, Continuus will do all they then can do to expedite this delivery at an earlier date."

That was delivered within the month of October.

Exhibit D-232, a telex from Nichols Aluminum to Mr. Kilburn, dated December 13, 1967:

"All spares on your order 8249 have already been shipped with the exception of one left helical spur gear, 56 toothed, which will be shipped by the end of the month."

It goes on

December 13, 1967.

Then, your Honor, letter from Nichols Aluminum to Properzi, dated January 15, 1968.

The Court: What is the Exhibit number?

Mr. Hamilton: D-234. It is from Mr. Russell (637) of Nichols Aluminum to Properzi:

"The maintenance people at Intalco are having trouble identifying spare parts for the casting machine and rolling mill."

It goes on to say that many of the drawings are inadequate.

Then in the next paragraph:

"Would you kindly have someone review the lists to make sure that the Essex people have all the drawings they should have."

That is January 15, 1968.

On January 17, 1968, Nichols sends a second letter to Continuus. This is Exhibit D-235. This is Mr. Morris, the president of the company:

"I just saw a copy of Jim Russell's letter to you of January 15, 1968, concerning the trouble Intalco is having identifying spare parts for the casting machine and rolling mill. In this letter he asked you when we could expect the complete parts manual for the No. 8. I would like to add my voice to that of Jim Russell's concerning this spare parts manual for the No. 8. Your customers over here are becoming very unhappy about the lack of this spare parts manual. Mr. Kilburn of Essex called me the other day and was very irate that he didn't have this manual by this time. (638) Will you please let me know when we can expect this so I can advise Mr. Kilburn?"

The Court: It sounds like an Italian movie.

Mr. Hamilton: A bad Italian movie, your Honor.

Q. Were you irate, Mr. Kilburn, in January of 1968, about this spare parts situation? A. I was disturbed about it, yes.

Mr. Hamilton: I would like to offer into evidence at this time Exhibits D-227, D-230, D-232, D-234, D-235, D-229 and D-233.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D-227, D-230, D-232, D-234, D-235, D-229 and D-233 were received in evidence.)

Q. Now, Mr. Kilburn, I would like to show you a copy of Exhibit D-130 in evidence, which is a memorandum of a meeting at Intalco on March 8th, 1968. I call your attention to paragraph 3 of that memorandum which begins "spare parts."

Can you tell me, Mr. Kilburn, whether or not you had all your spare parts by March 8th, 1968, the date of that meeting? A. No, we hadn't received them all. Just the mechanical parts.

Q. So by March you still didn't have them all? (639) A. Yes, we had not.

The Court: March '68?

Mr. Hamilton: Yes, ma'am.

Q. Now, let me backtrack a minute, Mr. Kilburn, back to the installation. I think you have indicated that your installation was complete on October 23, 1967. At least that is what is referred to in Exhibit P-48. Isn't that correct? A. Yes.

Q. What angle, Mr. Kilburn, did you install the casting wheel at? A. 25 degrees.

Q. Why did you do that? A. Because that was the recommendation and that's what the drawing said to put it at what was supplied by Properzi.

Q. Did that seem unusual to you at the time? A. Well, it seemed a little extreme, and I think prior to that I had even questioned it.

Q. Did you get a response to your question about the angle of that casting wheel? A. Yes. They confirmed that it was to be 25 degrees.

Q. Did they ever change that recommendation? A. You mean up to this—to what time?

(640) Q. Up until the point when you removed the Properzi. A. Oh, no.

Q. Did you ask them about it again, following your initial installation? A. Well, I think I did at the request of the Intalco people.

Q. Now, Mr. Kilburn, in Exhibit P-48, which is your chronology, you indicate that Mr. Russell arrived on October 23rd to check out the installation.

Would you tell us what happened when Mr. Russell arrived and what he was doing in checking out the installation? A. Well, he had with him four of the Italian people, and among the five of them they made various checks on the electrical and mechanical parts of the machine, tried out the components and so forth and, of course, there was a bit of adjustment, especially electrical, to be made, resistors adjustments and rheostat adjustments which Mr. Campbell and Mr. Markloungo made.

Q. Now, were there any people from Properzi actually there at the time you were ready to commence operating the machine? A. Yes, four.

Q. Four Italians? (641) A. Yes.

Q. What was their role? A. Well, they were——

Q. What did they do? A. They were to check out the machinery.

Q. Did they supervise the crew? A. Not supervision of the crew, no.

Q. Well, tell me about the start-up, Mr. Kilburn. You got the machine; it is all there and installed. A. Right.

Q. What happens? A. Well, for instance, they would take the electrical people at Intalco and go over the whole electrical adjustments and show them how it was functioning and what adjustments there were and so forth. They instructed them on the various components of the machinery.

Q. Was it just the electrical components? A. No, the whole group of machinery.

Q. Did they instruct them on the mill? A. Yes.

Q. On the casting wheel? A. Right. There were two people of the Italians who specialized in electrical and two who specialized in the mechanical, and they went their respective way in teaching us, (642) in training us the functioning of the equipment.

Q. Now, you indicated that there were people from Nichols there as well. Who was that? A. Jim Russell, who was their metallurgist, he was there with them.

Q. And who was Mr. Campbell? Was he from Properzi or was he from Nichols? A. He was a Properzi person.

Q. What did Mr. Russell do during this start-up phase? A. Well, when we got to the point where the machinery was checked out, he helped us in starting on the initial casting process.

Q. How long did he and the four Italians stay, do you recall? A. They didn't all stay the same length of time. Let me see. Can I refer—

Q. Yes, refer to Exhibit P-48 to refresh your recollection. A. Russell left on the 8th of November and Skolino—two of the Italian people left on the 11th of November, and the other two left on the 14th of November.

Q. And when did you make your first casting, Mr. Kilburn? (643) On the 3rd of November.

Q. Did you try to make rod out of that first casting? A. Yes.

Q. And when did you actually make your first rod of any consequence? A. Not until the 1'th.

Q. Had any of the people at Intalco had prior operating experience with the Properzi machine? A. Not to my knowledge. I had understood that they had visited Nichols, but I don't believe they had, what you call, experience.

Q. Now, at this time, Mr. Kilburn, what were your duties? What were you supposed to be doing? What role did you play in this? A. Well, of course, my role was to see that this equipment was installed properly and these people were trained. Where I felt that I could contribute, I did. Where I felt that the Italians and Mr. Russell could contribute, I made sure that they instructed the people. In other words, I was to provide the training, not necessarily all myself, but to see that it was provided, and so I acted in that capacity, to make sure that everybody knew what they were supposed to do.

(644) Q. There has been some discussion in this case, Mr. Kilburn, about the term in the contract called "running in" of the equipment. Did you have any responsibility for running in the equipment? A. Well, yes, I had the responsibility.

Q. What does running in mean to you, Mr. Kilburn? A. Running in to me is the initial start-up.

Q. When does it end? A. Well, as soon as each of the components would function mechanically or electrically as an independent—

The Court: Excuse me. While we are on this point, did you hand up those definitions, Mr. Topkis?

Mr. Topkis: Sorry, your Honor (handing).

A. For instance we always used the term "start-up," which means, if you have a motor, you want to make sure that it responds to the electrical controls that start it, that you adjust it to the right speeds, that the mill turns over

mechanically without any interference, that the wheel would operate mechanically, that all these things would be ready to receive the process. To me this is start-up.

Q. Well, at what point in time, Mr. Kilburn, had you completed this process, if ever? A. Well, I felt that after we had made a casting and put it through the mill and actually made some rod, that (645) certainly the start-up period was considered complete.

Q. And this was some time in November, is that correct? A. Yes.

Q. Do you remember a meeting, Mr. Kilburn, on June 8th, 1968, at Intalco, attended by Mr. Dunstan? A. Yes.

Q. Let me show you a copy of Exhibit D-141, Mr. Kilburn, which is a long tabulation entitled, "Conditions for Acceptance of Properzi Equipment."

Have you seen that exhibit before? A. Yes.

Q. When did you see that for the first time, do you recall? A. My recollection is that when we went to this meeting, that this was handed to us by the Intalco people.

Q. And by "us" you mean yourself and Mr. Dunstan? A. That's right, yes.

Q. Now, this relates to—the first sentence indicates that the Properzi will be considered out of start-up and operating normally when the following four items are satisfied.

Was this discussed at that meeting? A. Yes, all of these were discussed.

(646) Q. As far as you were concerned, Mr. Kilburn, what was the importance of getting these conditions agreed upon? A. Well, of course, I was anxious to get these conditions agreed upon so that my responsibilities would be relieved somewhat. It was not my intention to have to live at Bellingham. I was to get the thing in motion.

Q. Was it your responsibility to negotiate these conditions with AMAX or with Intalco? A. No, I had no negotiating responsibilities whatsoever with the AMAX people.

Q. Who had that obligation at Essex? A. Mr. Dunstan is my boss.

Q. Now, Mr. Kilburn, do you recall anything else about that meeting of January 8th, 1968, other than the discussion of this list, Exhibit D-141? A. I don't know that I understand.

Q. Do you recall, Mr. Kilburn, whether anything, in addition to that list, was discussed at this meeting on January 8, 1968, with Intalco? A. Well, at this moment I don't recall.

Q. Do you recall whether or not you had any discussion of maintenance problems at that meeting? A. Well, we brought out that point as we had— (647) I had apprised Mr. Dunstan of this fact by phone and speed memo.

Q. Would you tell me generally, Mr. Kilburn, what the maintenance problem, if any, was that you were experiencing at this time? A. Well, there just didn't seem to be ample back-up in mechanical maintenance. The electrical maintenance seemed to be satisfactory, as far as their response, but the mechanical maintenance, we couldn't get the kind of back-up, the service that we needed, we couldn't get things made expeditiously, repaired, so forth, taken care of, and they had so many things that seemed like they had to do that they didn't have time to do ours.

Q. Did you complain about this, Mr. Kilburn? A. Oh, yes, quite loud and often.

Q. Who did you complain to, do you recall? A. Well, about anybody I could get to listen. I guess I started with C. K. Li, and Mr. Ferrie, and Mr. Briggs and I think to Mr. Macdonald.

Q. What was Mr. C. K. Li's role on the Properzi, Mr. Kilburn, as you understood it? A. Well, as I understood it, when I went there they said C. K. Li is going to be your

man, you operate through him. We have assigned him to this, and we want you to get (648) him trained so that he can take over these responsibilities when its gets operating.

Mr. Topkis: Could we know who said that?

Q. Yes, Mr. Kilburn, would you tell us who advised you, upon your arrival at Intalco, as to what responsibility Mr. Li would have? A. I think it was Mr. Ferrie.

Q. Mr. Kilburn, in the period following the meeting of January 8th, 1968, up until the time that the machine was removed—

Mr. Hamilton: Withdrawn.

Q. During the period following the meeting of January 8, 1968, up until May 10, 1968, when Essex sent its termination letter, did you experience operating problems at Intalco which related to the equipment itself or to failures of the equipment itself? A. Oh, very definitely.

Q. Was one of those problems a problem with respect to the spouts? A. Yes.

Q. Would you tell us what problem you experienced in connection with the spouts? A. Well, the Properzi people in the original equipment had furnished us with a steel, cast iron spout which did (649) the job, but it would last anywheres from five minutes to two, three hours, and also there was a taper flow pin that was a companion piece to the spout, and that likewise was cast iron and it would wash away from the aluminum. Aluminum, you know, dissolves cast iron and these were supposed to be coated with a protective material, but a pinhole would allow an attack to start place and it would be unpredictable as to how long before it would dissolve and wash away.

Now, this is the spout which was furnished with the equipment.

Q. Were modifications made in the spout as operations continued over this period of approximately five months? A. In some time, and I don't recall the exact time, Nichols said that the other people had been having some success with ceramic spouts. so the Intalco people had had contact, I think, with suppliers of this material, so they served as the contact, and we got some ceramic spouts on hand to try.

Q. Did that solve the problem? A. No, it didn't.

Q. Did you have a spout problem, Mr. Kilburn, throughout this period of operation from January to May of (650) 1968? A. That's right. It licked the problem of not dissolving, but it introduced another one, which was the aspiration, the porosity in the material itself, apparently, and oxides were introduced, so we traded the problem.

Q. You just got a new problem with this new spout? A. Right.

Q. Now, Mr. Kilburn, during the course of your work at Intalco, over the period December, January, February, March and April of 1968, did you receive copies of the reports that Mr. Li made with respect to occurrences in connection with the Properzi? A. Yes.

Q. Did you use those reports in any way? A. Yes, I did.

Q. What use did you make of them, Mr. Kilburn? A. Well, I didn't have any facilities to make a finished looking report, and this summarized what happened, so I used it as my report. I kept a copy of it and I'm sure that I forward copies to Mr. Dunstan or at least made them available to him at some time.

Q. Did these reports reflect the spout problem which you have been talking about, Mr. Kilburn?

Mr. Topkis: I think the reports speak for them-
(651) selves. They are already in evidence.

A. Yes.

Q. Mr. Kilburn, look at Exhibit D-155, which is Mr. Li's report dated December 11, 1967, and he indicates down towards the bottom, "The third week we got into belt and spout problem."

Is this the spout problem that you have been talking about? A. That would have been the spout problem with the ferrous material, the iron or steel.

Q. Let's look now at Exhibit 158, Mr. Kilburn, which is Mr. Li's report of December 26, 1967, and the third paragraph of his report says, "The second run was interrupted by the sudden breakage of the ceramic spout."

Now, is this— A. By that time I think we had been trying—we had to give up on the iron and we tried the ceramic.

Q. Now, let's go clear to May 1 of 1968, Mr. Kilburn, which is Mr. Bloedel's report to Mr. Macdonald, of which you are indicated as getting a copy, May 1, 1968, and look down at the fourth paragraph which says:

> "A shipment of 722 millimeter and three 25 millimeter spouts arrived Friday afternoon and will be used the first of next week. The main problem that continues to (652) disrupt production is the spout."

Is that consistent with your recollection, Mr. Kilburn? A. That is right.

Q. Look at Exhibit D-134, Mr. Kilburn, which is the report a week later, May 1, 1968, and the first sentence says:

> "The ceramic spouts have continued to disrupt production."

Did the ceramic spouts solve the problem at all? A. Not at that time.

Q. The next report is May 21, 1968, Mr. Kilburn, Exhibit D-29, and if you will look at the first sentence under "operation," it says:

> "The only operating condition that affected production to any major extent was the ceramic spout."

That is May 21, 1968. Is this still the problem that you had been talking about? A. This is still the problem.

Q. Now, finally, Mr. Kilburn, I would like to show you a copy of Exhibit D-32, which is the Intalco memorandum dated June 18, 1968, by Mr. Macdonald to Mr. Loyer.

> Mr. Hamilton: Your Honor, this is an exhibit that we have referred to before. It was prepared by (653) Mr. Macdonald in June of 1968, after they had received the termination letters and in connection with trying to evaluate whether they wanted to buy the Properzi or not buy from Essex.

Q. I call your attention to the first sentence under the heading "metal transfer system." It begins;

> "The pouring spout problem remains to be resolved."

Now, Mr. Kilburn, when the termination letters went out on May 10, 1968, was it your judgment that the pouring spout problem remains to be resolved? A. Right.

Q. Any question about that at all? A. No.

Q. Now, the next sentence here, Mr. Kilburn, says:

> "It is expected, based on the experience of others, that oxidized titanium spouts will provide a solution such that previously mentioned one-shift capacity will be maintained."

Do you know, Mr. Kilburn, whether or not, in fact, oxidized titanium spouts proved to be a solution to this spout problem?

Mr. Topkis: For whom, may I ask, your Honor?

A. I don't know that anybody—

(654) The Court: Is there an objection to the question?

Mr. Topkis: Yes, your Honor. I object to the question as a matter of form.

The Court: As not calling for an answer as to whom this was a problem?

Mr. Topkis: Yes, your Honor.

Mr. Hamilton: Let me rephrase it. I think the objection may be well taken.

Q. Mr. Kilburn, did you try to utilize oxidized titanium spouts? A. No.

Q. Why not? A. Well, it was only presented to me as a fact, "Well, you can try this, if you want. We have used it on ours," meaning Nichols, "but none of the Properzi No. 8's are using it."

Q. Now, Mr. Kilburn, during the period December of 1967 up until May 10, 1968, when you were invcived in the operations of Properzi, did you have any equipment problems that related to the molds? A. Oh, definitely.

Q. Would you describe for her Honor the nature of that problem? (655) A. Well, the original molds were a very thin wall, perhaps a quarter, certainly three-eighths of an inch at the most, and it was, in general, the shape was like an M, except that in the center it was, instead of triangular, it was rather trapezoidal, and the idea was that the water sprayed inside this inverted M would cool it, but it proved not to be sufficient, and the mold would distort

and would, what we call, collapse; in other words, the sides would cave in and it would twist and provide an inadequate casting, and it would also close up the gap.

For instance, the M part of it would go over against the side wall and it couldn't get water in there to cool, as soon as it got any distortion to that effect.

Q. Mr. Kilburn, what happens when a mold collapses or curls or has the problem which you just described? A. Well, it can't receive any kind of cooling in this case.

Q. Does the casting wheel stop? A. Well, anything can happen. It could stick in the mold and cause the casting wheel to stop. You could continue trying to get a satisfactory casting without getting it. You could even have it coming out molten on the other end if you didn't have enough cooling. Certainly you couldn't get a casting of quality to make rod from.

(656) Q. You could not make rod if this mold is failing in the manner in which you described? A. That's right.

Q. Mr. Kilburn, you will recall earlier I showed you Exhibits 248 and 249 which indicated that Properzi was initially supplying you with experimental molds of two designs, one an octagonal shape and the other trapezoidal. Did you try both of them? A. Yes. That had to do with the shape of the cavity in the mold.

Q. Did they work out? Were they satisfactory? A. No. They were both shell-type molds. The only thing that was different was the inside cavity shape.

Q. By shell-type molds, what do you mean? A. Thin-walled, the type that collapsed and distorted and provided inadequate cooling.

Q. I also showed you, Mr. Kilburn, Exhibit D-254, which is dated January 16, 1968, which indicated that Nichols was forwarding to you their most recent thinking on the ring mold, and you said in your testimony a few minutes ago that later you got a new mold system from Nichols, is that

correct? Or a new mold from Nichols? A. This is not Nichols latest thinking, this was Properzi's latest thinking. It is in millimeters.

(657) In January you got Properzi's latest thinking on the molds? A. Yes.

Q. Did there come a time when you got Nichols' latest thinking on the molds? A. Yes.

Q. Do you recall when that was? A. It seems like it was sometime in February or March. I am not sure.

Q. Well, did the new wheel mold from Nichols work when it arrived? A. It worked much better. In other words, it didn't collapse.

Q. Well, let me show you this memorandum, Mr. Kilburn, which is a memorandum dated April 8, 1968, from Mr. Li to Mr. Mcdonald and a copy to you and it reads as follows, Exhibit D-161: "New Nichols designed wheel mold arrived on April 3, and installed the same night. On its first use the walls were deformed due to the high belt pressing roller pressure we were using. This resulted in a wavey and cracked casting. The roller pressure was cut down afterwards."

Are these the new molds you got from Nichols? A. Yes.

(658) Q. Describe for us, and tell us, what problem is being set forth in this memorandum of April 8, 1968? A. Well, the ring mold is a copper ring with a cavity in it which forms three sides of the mold.

To make it complete so it will hold metal, you have to put that fourth side. That fourth side was in the form of a steel belt which went around the ring mold and looped up over two idler pulleys. So that in effect, for approximately 180 degrees of the mold, this open side was trapped by a steel belt. This was held against the wheel, both front and back, by a retainer roller. It was held there with a cylinder to hold the belt up against the wheel. It was held

by an air pressure cylinder, to give it force to hold it there.

This force would actually cause the edges of the ring mold to roll in.

So then instead of having an open-shaped mold, this began to curl at the top and the casting could not extract.

So the casting would come out in big gallops.

Q. The casting is the piece of metal, the long piece of metal that comes off the wheel, isn't that right? A. Yes. This is where you transform the molten metal into a solid piece so you can roll it.

(659) Q. If it comes off in big gallops, as you put it, what does that do to your operation for making rod? A. Well, the casting is still very hot, and it can tear it and cause cracks when it doesn't come out clean. These cracks then will open up in the rolling mill and the rod will break and you will have a little bit of rod, then a break, a little bit of rod and then a break.

So that you can't coil it and make any use of it.

Q. What do you have to do with it? A. Scrap it, put it back in the furnace and start over again.

Mr. Hamilton: I would like to introduce Exhibit D-161.

Mr. Topkis: I don't think we have any objection. No.

(Defendant's Exhibit D-161 received in evidence.)

The Court: What is that?

Mr. Hamilton: That is that memorandum, C. K. Li report of April, that I just read a paragraph from.

Mr. Topkis: They are in evidence all as part of 48, are they not, Mr. Hamilton?

Mr. Hamilton: You may be right, Mr. Topkis.

Mr. Topkis: I don't mind. Let's not take time

(660) to look. If we have it in twice, that will be all right.

Q. Now, let me ask you this about the mold, Mr. Kilburn. Was that mold problem that you have been talking about, resolved prior to May 10 of 1968? A. No.

Q. What was the situation with respect to molds at that time, at or about May 10? A. Well, I think, as would be evidenced by the report, we didn't have the collapsing problem. We had a little better cooling but we would have this other aggravation periodically.

So the result was we could get a little bit more rod but still not satisfactory.

Q. Could you run the machine at any significant production rate as far as rod is concerned? A. No.

Q. How much production could you get, do you recall? A. Well, there was still one other thing—yes, to answer your question.

I think the best we ever got was, if I remember right, 71,000 pounds in a day or something, in a shift, which averaged out to be about 11,000 pounds an hour.

Q. Over what period of time was that, that was a full shift? (661) A. Yes.

Q. Let me ask you this, Mr. Kilburn:

You mentioned earlier that you were having a problem of cooling, a cooling problem.

Does that relate in any way to the mold on the casting wheel? A. Well, that's the whole meat of the coconut, so to speak.

Q. What is? What is the meat of the coconut? A. The cooling and the mold and the flow of the metal. You see, aluminum has some very peculiar characteristics. One of them is, to heat it up just to melting point takes so much heat. I don't know in terms of B.T.U., but it takes so much heat. Then to get at that last degree from the solid to the

molten state takes that same amount of heat, which is a tremendous heat, and we call that heat effusion.

Now, the reverse takes place when you are solidifying it.

In other words, to go from the molten to the solid, it has to give up all this heat. So that you have to have a means of applying that cooling to dissipate this heat.

Q. What happens, Mr. Kilburn, if you don't dissipate (662) the heat when the aluminum is cooling on the casting wheel? If you don't do it, what happens? A. There is one other peculiarity about aluminum. It has a terrific shrink. If you were to pour some in an open cavity and let it cool and you looked at it after it was solid, there would be a big hole down there. It has a very high shrink for metals. So the problem in casting is to control this cooling, such that when this metal freezes you don't pinch it off, you don't freeze it again up here and have some molten metal in between. Because if you do, then there will be a big hole in there. And this is the problem and the seat of this cooling problem.

This is what this secondary problem would have done. It would have given you a good cooling condition.

Q. Is it this secondary cooling thing that you were just describing, Mr. Kilburn, that was supposed to be the feature of the model 8 Properzi? A. Yes. It was my understanding that this was a thing that was going to get it up to the production.

The Court: In all other respects, the machine was identical to earlier models, is that what you are saying?

The Witness: No, no. The mill was entirely different. It was a complete rebuilt mill. It was heavier built. It had a much bigger drive system on it. It had a (663) different type of drive sys-

tem . It had an in-line group of pinions that drove it.

The mill was different, the casting wheel—I should say the casting machine. I use these terms loosely sometimes. The casting wheel is the wheel. The casting machine is the three wheels and this structure to hold it. The casting machine was different. The tundish in the previous models, the tundish was mounted to the wheel and the metal would come out from the side and go a short run into the mold.

On this particular model they incorporated a different configuration. They added these superstructure wheels—if I had the pictures I could show you.

The Court: Here they are.

Are these pictures in evidence?

Mr. Topkis: Yes, your Honor.

Mr. Hamilton: They aren't all in evidence. I will put the remainder in when Mr. Kilburn is finished here.

The Witness: Let's see if we got one that gives us a good view of it. Well, the best one we have here is this picture here.

Q. Would you identify it from the back, please. A. It is number D-700 C.

(664) Q. All right. A. Now, on the previous models there was only one upper wheel, and there was this one in the back.

So that in picture number D-700D, this item here is what we call the tundish, and this is the spout and this is the ring mold and this is the belt.

Now, in the previous models this wheel was missing so that the belt went only back over one idler roll, and therefore they could not introduce the metal here. They had to introduce it up here. So, as a result, instead of putting

this tundish into the triangular space between the mold and the belt, they adjusted it sideways and then came on with a very short spout.

This is why the spout was a whole new design and the means of the flow control, and so forth, were a new design. It was an entirely different thing.

So while we did the same things, while we poured molten metal into a hole and chilled it, and so forth, the means of doing it were entirely a new design.

In other words, you accomplish the same function.

Of course, along with that in the previous models the sizes of this cavity was smaller, too, so that you had a smaller casting.

Would I be—

(665) Q. In just a second, Mr. Kilburn, I want to ask you one thing before you do that. Number 14, what was the production rate of that machine? A. The number 8?

Q. Yes. A. 14,000.

Q. What was the production rate of the number 7? A. I think I stated in the order of eight to 9,000 pounds per hour.

Q. What feature of the number 8 was supposed to enable you to get such an increase in production rate? A. This secondary cooling, because, as I have stated, the real problem is to get the tremendous amount of lead content out of the molten metal so that it can become solid.

Q. So it was this secondary cooling feature that was supposed to give you this increase in operating rate. Am I correct? A. Right. All these BTUs that you have to put into this metal to transform it from a solid to a molten state have to come out again when the reverse takes place and you have to dissipate that heat. If you insulate it, it would never solidify. You have to cool it.

Q. Show her Honor what happens with the castings you have in your pocket when you do not have secondary cool-

(666) ing that works? A. Well, I have that one in my brief case.

But this is a cross section of what is supposed to happen. This, incidentally then, is the size of this ring mold and therefore the size of the casting.

I think Mr. Briggs—I will take that back. Mr. Clough, I realize he is an accountant, gave some dimensions which are right but doesn't matter. This is the size of the casting (indicating).

Q. Is this your briefcase, Mr. Kilburn? A. Yes. I have it locked. I just happen to have a good of example of what happens.

Now, for all intents and purposes that is a nice looking casting, the same as this, but there is what is in the center, because the cooling has not been handled right and it has solidified here and solidified here and we get a big shrink.

So this is why that cooling is so important.

Now—

The Court: That was the basic difference between the number 7 and the number 8?

The Witness: Was the secondary cooling. When I say secondary cooling, again to explain, your Honor, a little bit about it, what it meant was that at a point down (667) at the bottom of the wheel they actually had a mechanism to hold that belt away from the wheel and pour water directly on the casting. That is direct chill.

This is indirect because we have to cool by putting water on the wheel and the wheel then becomes cold and in turn chills the metal. But in direct chill, which this secondary cooling was attempting to do, you put water directly on the metal and so you can dissipate the heat much faster.

The Court: So that the secondary cooling system was merely an improvement or an addition to the number 7? It that what it amounted to?

The Witness: It was a very important one as it was put to us, to give us this production rate.

The Court: The rest of the machine was the same. Is that it?

The Witness: You could not interchange any parts, let's say that.

The Court: Well, the parts were larger.

The Witness: And different shape, and so forth. They had wheels but they were of a different size, they were of a different configuration.

It would be like saying that there is a car, but this one is a Ford and this one is a Cadillac. You know, (668) they are both automobiles but they are different.

Now, maybe I could, if I may, throw a little bit extra light on this spout and the oxidizing problem.

Q. Would you point out on the picture, Mr. Kilburn, the spout and describe for her Honor using the picture, the problem that you gave in your testimony a few minutes ago? A. Would you repeat that, please?

Mr. Hamilton: Read it back for him.

(Question read.)

A. Well, I didn't enlarge on the problem. That's what I am proposing I do.

Q. All right, go. A. The third peculiar thing about aluminum is that when it is molten it oxidizes very easily. Perhaps easier than most metals. That's good and bad.

Molten metal will form an oxide film on the top of it readily, whenever it is exposed to air. But then in turn that film prevents the metal below it from oxidizing so that film becomes a protection to further oxidizing.

So in working with aluminum you also make use of that factor and you never disturb this oxide film or ag-

itate it or stir it up, but you let it run through its envelope until you get it where you want it to.

Now, one of the things we found on this spout, (669) the trouble was that it was aspirating air and causing turbulence due to the pinion control and also by the aspiration, so that it was stirring up this film and causing oxide occlusions to be in the metal. They in turn then would not provide for—in some cases you could make rod but the rod would not be suitable for wire if it had an occlusion in it because when it was reduced to a smaller size in wire it would break.

These are three peculiarities that really center about the whole design features of this machine, and the problems were manifest in this pouring control mechanism here, this spout, and the ring mold.

We had other problems but I think these were the basic design problems that never did get resolved.

I am sorry if that was too lengthy.

Q. Very helful, Mr. Kilburn.

If you get a casting that has a hole in it because of cooling problems of that kind, Mr. Kilburn, can you make rod out of this? A. Well, no. Like I say, if it is such a nice looking casting that you don't know it, you will stick the mill, as we call it. You will introduce it into the rolling mill but the rolling mill will just pull it apart in little pieces.

(670) Q. What happens then? A. It can jam, it can cause cobbles. It certainly doesn't make rod. So that if you know that it is like that, of course, you don't even stick the mill. But many times as I showed here, you don't even know it.

Q. By stick the mill, you mean start— A. Stick the mill is a common term for introducing it into the rolling mill.

(671) Q. Was this cooling problem, Mr. Kilburn, a problem that you had throughout the period of operation at Intalco? A. Yes.

Q. Did you ever resolve it prior to May 10, 1968? A. No, not in its entirety.

Q. Now, Mr. Kilburn, I would like to show you some of Mr. Li's reports concerning operations during this period of time. The first one, which you got a copy of, is dated December 18, 1967.

I would like to refer you to a paragraph numbered 6.

The Court: Excuse me. Before you go on.

Read the previous question and answer.

(Record read.)

The Court: What do you mean by "not in its entirety"?

The Witness: We improved it some by going to the Nichols suggested type of casting wheel, but we could never provide enough cooling under that system to get up to the production that we wanted. And, coupled with the spout problem, it just never worked.

The Court: Did you ever resolve that problem?

(672) The Witness: Yes.

The Court: When was that?

The Witness: In Boonville.

The Court: When was that?

The Witness: Oh, let's see. That would have been in 1969.

The Court: What month?

The Witness: Over a year later.

The Court: A year later?

The Witness: Yes.

The Court: How did you resolve that problem?

The Witness: Well, to get away from this peening action, it was discovered that you took this

pressure roller off and you let it back against a stop, so that it didn't touch the wheel, but it came within thousandths of touching it, so you added a device to do this. This then got around the problem of the wheel grabbing the casting.

Now, in addition to that, we had to introduce complete new side roll manifolds. When Properzi gave us this machine, there was no external cooling on the side of the wheel. The cooling was only from inside. So we had a whole new manifold. We extended it up in the back. We changed the cooling on the belt. In (673) other words, we rearranged and increased the cooling immensely.

For instance, to cool this copper wheel, you have to get a particle of water on the wheel and off again. Running it in water, setting it in water, doesn't do any good, because all it does is form a steam pocket, and that's a better insulator. This thing had to be wholly redesigned so these jets impinged on this wheel at the correct angle——

The Court: Jets of water?

The Witness: Yes, the jets of water pinged on the wheel at an angle, bounced off, and of course there were many, many of these particles of water, and each one would take with it its bit of heat.

In other words, you get the particle in, let it do its work, and out again.

On the Properzi one at first, the water would all collect on the bottom, and you couldn't dissipate the heat. They didn't have any side cooling that would allow this to hit the wheel and drop off. They had a different cooling on the belt, and also some external cooling up the back of it.

The Court: And did you ever get up to the production rate initially specified?

(674) The Witness: To 14,000?

The Court: Yes.

The Witness: We have gotten up to it, but there have been other things, as everybody else has done, and that is to increase the size of the cavity which has helped to get that up. In other words, they made it a bigger casting.

In some cases, and this is hearsay—I can't substantiate it—but they have increased the diameter of the wheel, which, of course, gives you a longer space of contact so that more cooling could be provided.

So there have been various means and developments, really a design and development program that ultimately allowed it to get up to acceptable levels.

But I should say, also, that the interpretation of the operating rate, to my knowledge, no continuous running machine really runs continuously. It's 14,000 pounds while it's running, but there is a down time. So you can't multiply it by "X" number of hours in the day and say that that's what you will get out of it.

The Court: I see.

All right.

Q. Mr. Kilburn, I want to show you Mr. Li's report (675) of December 8, 1967, Exhibit D-156, and I will read Paragraph 6:

"We also found periodic deformations on the copper casting wheel. The side walls caved inward and the bottom convexed up in locations about 1 inch in front of each cross bracing of the wheel frame. We believe this is caused by the blocking off of spraying water by these bracings, resulting in a hot spot on the copper wheel. We checked this

problem with Nichols Aluminum and was informed that all three existing No. 8 machines have the same problem."

Now, is this part of this cooling problem you are talking about? A. It's a further manifestation of the same thing.

Q. Now, Mr. Kilburn, I want to go to the memorandum of April 22, 1968, by Mr. Bloedel, Exhibit D-164, and it begins by saying:

"A new pair of side spray manifolds were installed Wednesday. The new side spray manifolds should improve the cooling characteristics of the casting wheel."

Is this the change you were talking about earlier. A. This was a step in that direction, yes.

(676) Q. I would like to then move to the report of May 20, 1968, Mr. Kilburn, which is Exhibit D-27 from Mr. Thaure of Intalco to Mr. Ferris.

Down at the bottom of the page under "Casting wheel," "The difficulties can be located in the casting spout and the wheel. The spout is very long and its nonporosity is a major question. The cooling of the casting in the wheel is too fast and too fast as soon as we increase the speed of the machine."

Is that right, Mr. Kilburn, if you increased the speed of the machine—A. I don't understand that. I think what he is saying is that the cooling method might have been adequate for a very slow production rate. In other words, you could maybe get a few thousand pounds an hour out by running it slow and the cooling would be enough for that.

However, the big problem there is that whenever you went slower, the casting then was—this casting coming out of the wheel was colder. When you stuck the mill or introduced it into the mill you were cold rolling the casting, and that would result in a very high tensile, which was not safe for wire purposes.

In other words, the temperature of the casting (677) going into the mill also was a factor.

Q. Was a factor? A. Yes, in producing good rod. So, you couldn't make safe rod at a slow rate, even if you wanted to accept it.

Q. Now, Mr. Kilburn, the final memorandum is the Intalco memorandum of June 18, 1968, Exhibit D-32 in evidence.

I would like to read under the heading, "Metal cooling capacity."

It states, "Beyond 11,000 pounds per hour of E. C. Metal, we have not developed a practice which will produce a sound casting. Casting beyond this rate (2.3 rpm casting wheel) produces cracking caused by cooling stresses."

Then, skipping: "The absence of cooling water controls will have to be remedied to permit development of casting practices beyond those established by Essex Wire."

Then the—A. I think that's essentially what I have been trying to say in my way.

Q. The last sentence in that paragraph, Mr. Kilburn, says as follows: "Horizontal metal feed to the (678) casting wheel will permit reduced cooling rates and sound casting at higher pouring rates."

Did you follow that? A. I think what he is—I heard what he said. What he is referring to, I think, is a further and later—well, as I pointed out, this type of casting wheel with the three wheels meant that you had to introduce the metal at a much lower point on the wheel than in the old original smaller Properzis. I think what he is saying is that that's a hang-up from the previous models, that they introduced the metal up farther, and therefore had a little bit more cooling section there.

But that is not entirely true, because you had to take it out at a lower point on the back end.

Q. I see. A. So I don't really agree with what he is saying there.

Q. Now, Mr. Kilburn, there has been some talk here in the testimony about the emulsion. Would you tell us what the emulsion is in the Properzi operation and what function it's supposed to serve? A. Well, of course, when you get the casting you have got a good bit of the battle done, if you get a good casting. But in rolling, the metal is hot and (679) it goes through these series of rolls. There are 17 roll stands in the rolling mill, and each one of them has a set of rolls that reduces this down. I think somebody else brought that point up.

Q. Mr. Kilburn, just looking quickly at the picture which is D-700-E. Now that long piece of metal coming up, that is the casting coming off the wheel; is that correct? A. Right.

Q. And when the casting comes off the wheel like that, where does it then go? A. Into the mill.

Q. Into the mill? A. Yes.

Q. The emulsion is in the mill, is that right? A. What I'm saying is that the rolls will get abused from the heat if you don't cool them somewhat. Also, you need a lubricant between the roll and the metal because aluminum hot is a little bit sticky, so we use an emulsion as the rolling media, the fluid which cools the rolls and also gives lubrication to the material.

The Court: And it flattens the other one that you had out. Is that what it does?

(680) The Witness: It reduces this. Like, for instance, what we call the first pass would roll these corners down, flatten this out a bit.

Then it would proceed from, roughly—this shape is necessary to cast it and get it out of the wheel. Then the ideal rolling configuration is either oval-round or hex-triangular or various other sequences.

In the Properzi, it used the hex-triangle. In other words, one set of rolls would make a triangle.

The next set of rolls would nick those corners off and give you a hex shape. Then the next set of rolls would make it back to a triangle.

This has to be done. You have to work the metal in a rolling mill in order to give it tensile properties.

Q. Mr. Kilburn, is the rolling mill shown here in Exhibit D-700-H? A. Yes.

The Witness: This is the rolling mill, your Honor, right here. There are 17 of them, and each one of them have a set of rolls and reduce the section by 20 per cent.

Now, there is one other thing as a by-product (681) of that. When you reduce it 20 per cent, you increase the speed 20 per cent. So that if this is going 40 feet a minute, out the other end it's coming pretty fast. Of course, this results in a problem when you're not making a good continuous rod. It's coming out pretty fast.

Q. When it comes out pretty fast at the far end, Mr. Kilburn, what happens to it then? A. If it hits every stand, it will get rid of itself and you have to pick it up off the floor. But if you have a break and it misses one of those stands, it's going to form an awful cobble.

Q. What is a cobble? A. A cobble is when it can't get in the hold and so it twists itself around trying to because the metal behind it is pushing it. And in this particular mill, each one of these stands is driven through a shear pin. This is a weakness that's built in the machine, a pin that will shear when it's overloaded. What happens if No. 17 cobbles, almost instantaneously No. 16 pin will shear and it will cobble. Then 15 will shear and it will cobble. It just goes bang, bang, bang. You can hardly run to the stop button quick enough to do anything about it.

(682) Q. When it comes out of the end of the machine, if it's running properly, the rod, that's when it goes on the coiler? A. Yes.

Q. Is the coiler shown in Exhibit D-700, Mr. Kilburn? A. Only a little bit of the mechanism. This is one of the take-ups. There's another one alongside of it. There is a mechanism for doing so. This is a coil.

Q. Mr. Kilburn, we got off on this when I was asking you about the emulsion.

The emulsion is a liquid that is in the mill; is that correct? A. An emulsion is a particle of water surrounded by an oil-type film. Don't picture one particle of water, this is millions of them. So, it's like a pail of water. But under microscope it shows up as minute particles of water surrounded by an emulsion.

Q. And the emulsion does that in the mill? A. It gives you the lubrication and the cooling.

Q. Lets the rod slide along and cools it? A. Not slide, but roll over the rolls without gawing, without picking up metal from the casting.

(683) Q. Now, Mr. Kilburn, while you were operating this Properzi from December of 1967 until May of 1968, did you have any problems with the emulsion? A. Yes, we had problems because at that time the emulsion which was recommended and to be supplied by Mobil, all they would tell us was that there are three conditions. Just right, too tight, and too loose.

Q. What do you mean, too tight and too loose? A. Well, therein lies the problem. Too tight, in reality, means that there are too many small particles. I said emulsion is a series of droplets. In reality, that's what it means.

And too loose means that there are too many big particles in the emulsion.

They say you have to control this emulsion so that it's just right, but they gave us no measure of telling when

emulsion is just right. They said if it does one thing, it's too loose; if it does the other thing, it's too tight.

So, we got ourselves into trouble.

Q. If it's too loose, what happens, Mr. Kilburn, in the rolling mill? A. Well, in either case, it can result in the mill tearing the bar apart.

(684) Q. In other words, it doesn't lubricate? A. It doesn't furnish its lubricating properties.

Q. Now, did you have this problem at Intalco, Mr. Kilburn? A. Yes.

Q. I would like to show you Exhibit D-164, which is Mr. Bloedel's report of April 22, 1968, and read you the following:

"A quality casting was produced during the week. The main operational problem was rod breakage in the rolling mill which was attributed to the emulsion. Mr. Paul Raiford of Nichols Aluminum and Mr. Ivan Kolarik of Mobil Oil were contacted on possible solutions. Mr. Kolarik recommended that we circulate the unfiltered free oil into the filtered mill emulsion."

Is this an incident of this, Mr. Kilburn? A. This is one part of it, yes.

Q. Were there other instances where you had problems with the emulsion? A. We had quite a bit of problem with it for some time.

Q. Now, Mr. Kilburn, finally I would like to refer you again to the final report of Intalco dated June 19, 1968, under the heading "Reduction Mill," (685) which reads as follows:

"The art of emulsion control will remain a development area. We have no safe method for definitive criteria of a good emulsion."

Is this the problem you were just mentioning a minute ago? A. Yes.

Q. You had no criteria for determining whether it was too tight or too loose? A. Only the results.

Q. When it happened— A. If you had trouble, it was either too loose or too tight. You had your best guess as to which it was, and make an adjustment accordingly.

There was one indication that would help you think it was too loose, because then you would tend to smoke a little bit at the rolling stands.

Mr. Hamilton: At this point, I would like to offer in evidence Exhibit D-255, which is a memorandum from Nichols Aluminum to Mr. Kilburn, dated February 19, 1968.

Mr. Topkis: No objection, your Honor.

(Defendant's Exhibit D-255 received in evidence.)

(686) Q. Mr. Kilburn, the first paragraph of this exhibit reads as follows:

"We have just received word from Continuus on the disposition of the electromagnetic water valve on the main water supply line to the casting machine which, as far as we know, cannot be made to function."

What is this about, Mr. Kilburn? A. That was an incident that was not of too longevity, but was quite a problem at the time.

When you start casting metal into the wheel you at the same time turn on the water, and when water doesn't come, you have problems, because the metal, molten metal comes out all over every place.

Now, this was an Italian-built valve and it didn't operate free. That's the easiest way to put it. It would stick, and it was unpredictable. It was an air controlled valve. So, pretty early in the game, we threw that out and put on an American-made valve. So I can't say that that meant any difference in the ultimate end, although it was another little aggravating situation.

(687) Q. Have we covered Mr. Kilburn, the equipment problems which you experienced at Intalco, to the best of your recollection? A. Well, I think we have covered the ones that are of some significance.

Q. And let me move to a different subject. A. For instance, we had a motor burn out that Westinghouse repaired and told us that it wasn't built very good, things like that. But, really, you know, what I am saying is I think we have covered the things that we are discussing herefore importance.

Q. May I ask you this, Mr. Kilburn: is supervision of the crew in the operation of the Properzi an important consideration insofar as getting up to a high operating rate is concerned? A. Well, of course, it is important in any operation, especially where it is a crew operation, you know. It is not like a man operating a machine. You have got a crew. And this is a process. This is not a machine. So there are many things that you have to do and you have to be sure have been done.

Q. Well, why do you say it is a process, Mr. Kilburn, and not strictly a machine? A. Well, a machine is one machine, perhaps, that a (688) man or two men operate, and one thing. This has four phases to it, you know; the furnaces, the metal, the treatment of the metal, the quality of the metal; then the casting operation, which is done by the casting machine; then the rolling mill, which has to have a good casting, but which can foul up the detail and then the coiling system. So that this is a process, this is an operation of a group of machines by a crew.

Q. Does there have to be coordination, Mr. Kilburn, between each aspect? A. Oh, yes. In fact, this has a very exotic electric system to coordinate this electrically and, of course, certain things have to be done mechanically and operational-wise, they have to be coordinated 100 percent.

Q. Now, Mr. Kilburn, who at Intalco had the ultimate

responsibility for the supervision of this Properzi operation? A. When you say "ultimate"—

Q. Well, let me rephrase that. Where was the Properzi located, Mr. Kilburn, at Intalco? A. At the south end of the casting. Am I right? North end.

Q. North end of the cast house? A. Yes.

(689) Q. Who was in charge of the cast house? A. Mr. Macdonald.

Q. Did he have anything to do with the actual operation of the Properzi? A. No.

Q. Did you see Mr. Macdonald from time to time? A. On occasion. He is a pretty busy man.

Q. Where was his office? A. At the opposite end of the mill.

Q. How far away, would you say? A. Well, part of the time I'd drive down there. I don't know, two, two and a half blocks, 1200 feet, I would guess.

Q. Now, who was responsible for maintenance on the machine, Mr. Kilburn, in the sense that when you needed maintenance assistance, who got you maintenance assistance? A. Well, that was one of the problems. The maintenance department was independent to operations. In other words, there was no responsibility so that operations would ask for maintenance, and that is the only authority they had, as I understood it, to request maintenance.

Q. Did you, yourself, have authority to make a direct request for maintenance? A. Oh, no. No, no. I could ask, but I had no (690) authority, you know.

Q. Well, who would you ask? A. I tried to work through C. K. Li because I knew that at some time I would not be there and I wanted everything to go through him. He was put to me as being the man responsible to see that the things get done that have to get done.

Q. Did you feel, Mr. Kilburn, during the period December 1967 to May of 1968, that you had a problem on

supervision with respect to the Properzi? A. Well, yes.

Q. Would you tell me what kind of a problem you had? A. I thought C. K. Li was more of a technical man and didn't seem to be able to command people on the job with the dispatch that a direct supervisor should. They had a foreman who I understood worked for C. K. and who the intention was to make him a second shift foreman at some date. His name was Jim Wiegand. Jim was a young fellow, and I think he had a lot of potential, but at that time, certainly there was some lack of maturity in the way he handled things. He was a little bit impulsive—ambitious, but not in all cases would he check out things thoroughly.

Q. Well, Mr. Kilburn, were there times where you had problems with the operation of the equipment because (691) there was not sufficient supervision, in your judgment? A. Oh, yes, yes.

Q. Would you tell us about some of those occasions? To the best of your recollection. A. Well, I remember coming in one morning and we found 45,000 pounds of metal frozen in the furnace, solid, down to about half-way. The off shift supervisor was supposed to check the thermocouples and so forth, and they didn't; therefore, the furnace went on low fire and it froze.

I recall one instance where we didn't have any lube oil in our lubrication system, which was approximately 500 and some gallons, as I recall, and we found out that it had all been pumped down the sewer because somebody left the valve open.

I found—oh, I had a real personal incident myself. We were operating the casting machine at one time, and Les Bloedel was the supervisor at that time, and I asked where he was and found out he had to go to a safety meeting.

Well, it so happened that we were just starting to operate, so that left the crew in charge of the lead man. The

lead man let three or, at least, which was at least half of his crew go to take lunch, and the lunchroom was half-way (692) down the cast house, which was fine if everything was working good. But it didn't work good, so I had to jump in and help.

We began to have trouble with the casting, and it was braking very badly, so we had to start cutting the casting, which I haven't explained yet.

When it is coming off the casting wheel, to stop it, you have to start chopping it up in pieces with a pneumatic cutter in order to shut it down gracefully.

So I had to jump in with a pair of tongs and try to dispose of the hot chunks of metal, and there just weren't enough of us to do the job, and the result was that I got my pants burnt pretty badly, and a nice gash across the leg.

And, of course, I was quite disturbed because it was ironical; here the supervisor was at a safety meeting and here we were getting burns and this sort of thing.

Q. Do you remember any other incidents, Mr. Kilburn, which you attribute to lack of supervision? A. Well, let's see, if I could recall, I could give you more. Let me think of some.

Oh, there was one case where we had a cobble, and it was all cleared up, and the mill was declared ready to start by the off shift crew. I think it was the second (693) shift. And we come in, and we had a checklist, but apparently they didn't go through the checklist.

Q. When you say "we had a checklist," what do you mean? A. Well, C. K. Li—I tried to work through him and I had helped him; we prepared a check list of things we should check before you ever start out, check the pressure, check the temperature, check this, check that, see if everything functioned.

And we started—in this case we started casting, and we got a casting, we thought, was ready to stick the mill, and we stuck the mill, and the first stand, the whole head was loose, and it forced the thing back out, and it's hard to describe the construction of the heads, but anyway, with those being loose, it allowed the emulsion to all run into the lubricating oil, and so we had X number of gallons of emulsion in our lubricating oil, so we had to pump that out.

Now, those are some of the instances, I think, which are of a rather serious nature and of importance.

Q. Do you remember an occasion, Mr. Kilburn, where you had to get a tank truck to pump the emulsion? A. That was an incident with C. K. Li. One of our emulsion—in one of our emulsion troubles it was determined (694) that we had to pump this batch out, and get a new batch. So C. K. Li, as he usually did, would arrange for things, and he was supposed to arrange for a tank truck to come in so that we could pump the emulsion out.

Well, here we were, ready to do this on the start of the day, and the truck wasn't there. So we started chasing around. I don't think we had any supervision other than the lead man because C. K. was away to an English lesson, which he took periodically, and so I started checking around, and I finally found out that C. K. Li had called somebody up and said, "Have you got a tank truck to do this?" and the fellow said, "yes."

But C. K. Li, didn't, apparently, tell him that he wanted to use it, so the fellow just said, "Yes, we have got one." So it never showed up.

Well, then, we finally got over that incident, after chasing it down, and this was a big problem at Intalco, because this is a big outlay, and in this particular case, I think I had to get in my car and drive about a half mile over to the maintenance offices in the parts department.

Another instance, when we were going to—I guess you would blame this on the maintenance department—we were going to pump some emulsion out—another incident—and they brought a pump down—first of all, it took us (695) about an hour and a half to get the pump, and then they brought it down. It was a gasoline pump, and they didn't even have a starter rope to start it. So then that took another hour and a half for a man to go get it, because these maintenance people would have to get in a truck and go over to the maintenance headquarters, and I don't know, I guess they had some coffee stops and what-not along the way.

So this was very aggravating and to me it showed, you know, a lack of organization of the operation.

Q. Did you have the impression, Mr. Kilburn, that the crew didn't want the equipment to work? A. Oh, everybody wanted it to work, I guess. The crew, they were good crew people. My opinion would be that there was the crew and they were normal, but that, at the upper echelons, they were so busy with their other problems they didn't have time to put the attention to our little operation which was way off in the corner.

Q. Now, Mr. Kilburn, I want to show you a copy of a letter from Nichols Aluminum, dated February 23, 1968, which has been marked for identification as Exhibit D-190.

Was that an offer of technical assistance which you received from Nichols Aluminum in February of 1968? A. Yes.

Q. Does that offer reflected in Exhibit D-190 have (696) anything at all to do with the Properzi which was in operation at Intalco? A. No.

Q. What does it relate to? A. This is our No. 2 unit.

Q. This is the second Properzi that was on order? A. Yes. Jerry Murphy, who was then Paul Raiford's boss, I think he was a vice-president, had visited us at Intalco one time.

He said, "Charlie, do you think it would be well for us to think of some kind of a service contract on these start ups?"

I said, "Well, it might be a good idea."

He said, "Would you be interested?"

I said, "I don't know. Send me a draft of it."

So this was the result.

Q. But this relates to the installation and start-up of the second Properzi? A. Yes.

Q. Are you sure about that? A. Yes, positive.

Q. Now, Mr. Kilburn, I'd like to show you a copy of Exhibit P-24 in evidence, which is a letter from Nichols to Mr. Dunstan, dated May 2, 1968.

(697) Did you see a copy of that letter, Mr. Kilburn, at or about the time that it was received by Mr. Dunstan? A. Yes, I think I did.

Q. Did you have occasion to discuss that with Mr. Dunstan? A. Yes.

Q. Do you remember what you said to him on that occasion? A. Well, I told him I didn't think it would do much for us.

Q. Did you tell him why? A. We had these people in, gee, I don't know, a total of 53 days or something like that, in Intalco already. They hadn't operated this machinery themselves. It was my understanding they weren't even allowed to see some of the other Properzis and that, coupled with the fact that they, in fact, only told us that when they were putting rod on the coilers they would count it as production time, after we got rod out of the coilers, why, that was no problem anyway, you know. It was a problem getting to that point.

Q. Mr. Kilburn, what are you referring to when you talk about "they only counted operating time as the time when they were getting rod on the coilers"? A. Well, it

says, "an operating hour begins when (698) rod reaches the coiler and ends when rod is no longer being coiled."

Well, if you get a break or anything, then they stop counting.

Q. Nichols here offered to enable Essex to meet the following specifications:

"Produce EC rod to Aluminum Association specifications at the rate of 12,600 pounds per hour while operating."

And then they give this definition:

"An operating hour begins when rod reaches the coiler and ends when rod is no longer being coiled." A. Right.

Q. Now--A. I think there were some other things which Mr. Dunstan has brought out, too.

Q. Let me stay on this, Mr. Kilburn. At what point does rod initially reach the coiler in the operation of a Properzi? A. Well, that is the last thing. After it is a good, solid rod, then you coil it up.

Q. If you start up a Properzi, Mr. Kilburn, and you have a problem with the spout, will rod be getting to the coiler? (699) A. No.

Q. If you start up a Properzi and get by the spout, but then have a problem with the mold, will rod be getting to the coiler? A. No.

Q. If you get by both of those two problems, Mr. Kilburn, but the cooling is not working properly, and you produce a casting that has a hole in it like that, will rod be getting to the coiler? A. No.

Q. Now, suppose, Mr. Kilburn, you get a good casting but the emulsion is not working properly in the mill; will the rod be getting to the coiler? A. No.

Q. Now, Mr. Kilburn, were there any other features of this letter of May 2, 1968, which caught your attention at that time? A. Well, they speak of the back-up there, adequate metal, mechanical and electrical maintenance,

supervisory and hourly personnel, and they, on their visits, would always complain to me about the back-up we were getting.

Q. Mr. Kilburn, let me ask you this: did Essex accept this offer of May 2, 1968, Exhibit P-24? A. No, sir.

(700) Q. Did you agree with the decision not to accept this offer expressed in Exhibit P-24? A. I agreed with it. It was not my decision, but I agreed with it.

Q. Now, Mr. Kilburn, there has been considerable testimony about some letters that were exchanged between Essex and American Metal Climax, the first dated May 10, 1968. Do you recall having any participation in the drafting or of the formulating of those letters? A. No.

Q. Were you consulted by Mr. Dunstan or anyone else at or about that time concerning whether or not Essex should terminate the two contracts which are the subject of this case? A. I don't think "consulted" would be the word. I'm sure, you know, he reviewed our bad situation.

Q. Do you have any recollection of discussing the situation with Mr. Dunstan? A. Yes. I recall discussing these various things. I was more of a listener, and he had me present for confirmation. I think I sat in with Mr. Seifert and he.

Q. Now, did there come a time, Mr. Kilburn, where you were instructed to go to Intalco and remove the Properzi from the plant there? (701) A. Yes.

Mr. Topkis: If your Honor please, aren't we plowing ground that has been plowed many times before? There is no question he was given instruction to go to the plant. He went there, without any objection from us, and removed the Properzi. I am prepared to so stipulate, if that will end this. I don't see any point in wasting time on it.

The Court: What do you say, Mr. Hamilton?

Mr. Hamilton: Will you also agree that he first went to the plant on June 24th, which was on Monday, 1968?

Mr. Topkis: Anything you say.

Mr. Hamilton: Well, that's correct.

I would just like to ask him about conversations he had when he arrived on the scene there, Mr. Topkis, and then I will accept your stipulation.

Q. When you arrived on the scene, Mr. Kilburn, what did you do? A. Well, I was over in the area discussing it with the contractor and Bob Ferrie came up and said, "I understand you are going to take it out."

And I said, "Yes."

And he said, "Well, Charlie," he says, "would (702) you hold that up just a little bit 'til I check it out?"

I says, "Sure. We can't get it done that quick anyway."

So he went someplace, and he come back—I think it was after lunch that same day—he said, "It's okay, you can go ahead."

Q. And you did it? A. Yes.

Q: Now, Mr. Kilburn—

The Court: Are you about to wind up, Mr. Hamilton, because we have another matter for the recess?

Mr. Hamilton: I have another 15 minutes, I think, your Honor, just the installation of Boonville is all I am going to talk about, what happened after it was removed.

The Court: Suppose we recess now until 4:30. We will take a 20 minute recess.

(Recess.)

(703) Q. Mr. Kilburn, I think you testified that you were in charge of removing the Properzi from Intalco. A. That is right.

Q. What did you do with it after it was removed from Intalco? A. We stored it temporarily.

Q. And then what did you do with it? A. We installed it in a plant we built in Boonville.

Q. Did you have anything to do with the installation of the equipment at Boonville? A. Yes, it was all my responsibility.

Q. Now, did you make any changes in the equipment, Mr. Kilburn, when you installed it at Boonville? A. In equipment, well, of course we had new furnaces.

Q. Did you make any other changes? A. Yes. We modified the cooling. We made that adjustment in the mechanism to prevent the roll from pressing on the wheel.

Q. Let me stop you just a minute, Mr. Kilburn.

The cooling adjustment you made is the one you described earlier to Judge Motley, is that correct, when she was asking about changes in cooling? (704) A. Yes.

Q. What is this second change you made? A. The mechanism for preventing the belt pressure roll from bearing against the wheel which could peen the flanges of the wheel over and trap the casting in the wheel.

Q. What was the purpose of making this change? A. So that it wouldn't give you a crack, a stress crack, when it pulled out of the wheel, when the rim was rolled over.

Q. Now, describe for me the nature of this change. Physically, what is it, Mr. Kilburn? A. Well, there is a cylinder that presses a roller against the belt to hold it against the wheel to form the fourth side of the mold in the Properzi design.

Now, in the modification, this roll did not exert itself against the wheel but held the belt close and cleared it by a matter of thousandths, so there was never any pressure from the roller bearing on the wheel, the mold.

Q. All right.

Any other changes, Mr. Kilburn? A. Then we changed the whole pouring control (705) mechanism in the tundish. Properzi had had a remote control mechanism that operated a pin in the top of the spout and, therefore, would act like a valve and control the flow to the wheel.

Now, therein lay the problem of the aspirating of the oxides. We changed the spout so that it formed a restriction and operated with no valve at the top. So, therefore, you had a static head at all times and you could not aspirate air. And this incorporated a complete change in the tundish design. It was even changed for material, from cast iron to masrock, which is a ceramic-lined material.

Q. Did you make any other changes in the equipment, Mr. Kilburn, when you installed it at Boonville? A. This angle we are talking about was a little bit less, although not too much. I think we moved the cooler, the external cooler, the down stream cooler. There was a cooling box that regulated the temperature from the—of the casting from the rolling mill as it went into the rolling mill—let me correct my statement.

It regulated the temperature of the casting coming off the wheel and going into the rolling mill. There was a water spray box there, so you could adjust (706) that temperature. We changed the position of that slightly.

Q. What was the purpose of doing that? A. Give us a little better temperature control.

Q. In the mill? A. Yes. This was one of the things in Properzi's suggested layout that I found later perhaps was a little bit off dimension.

Q. I see.

Did you put on an anti-cobbler device? A. Yes, I did.

Q. What was the nature of that device, Mr. Kilburn? A. Well, as I stated in my explanation, the statement that

when the last stand cobbles, all the rest of them will because you cannot get to the panic button, so to speak, soon enough. So I put on a device—actually, it was a zero-speed switch, so that as soon as the last or any of these stands stopped rotating, the switch would sense that and shut the mill off, and minimize the cobble. It would cut it down to maybe 2 stands instead of all 17, which would change the time element considerably.

Q. When did you start up at Boonville, do you recall, approximately, Mr. Kilburn? (707) A. My recollection, it was the last of March, the first of April, in 1969.

Q. Was anyone from Nichols present at the start-up? A. Yes. Jim Russell and two of his people were there.

Q. Why did you have them present? A. Well, my crew, or boys off the farms, so to speak, they hadn't worked in any kind of a hot metal operation, and when you tap a furnace in this process, metal starts flowing, and somebody has to know how to direct it. And there are three critical areas.

There is the control of the metal at the furnace, at the casting mill, and then sticking the mill. So we had to have somebody with experience there. I was the only one with Essex, so we had to have somebody there with some experience to stand over these—our people's shoulders to show them what to do there.

It was not really training. It was assistance in starting. Well, a form of training.

Q. How long were they there, do you recall, the Nichols people? A. I think it was ten days.

Q. Now, Mr. Kilburn, were you in charge of the (708) Boonville operation from this commencement? A. Yes, sir.

Q. How long did you remain in charge of the Boonville operation? A. Approximately three years.

Q. During the course of the time that you were in charge of the Boonville operation, did you keep track of the costs that it cost you to convert hot metal into E. C. rod? A. Well, I had an accountant, plant accountant under my jurisdiction.

Q. Did he keep track of those costs? A. Yes.

Q. Did he report to you about those costs? A. Yes. I had to—as a matter of fact, I had to write a letter to the vice-president telling him the costs and the factors of production, and so forth.

Q. Do you recall what the costs were that you incurred at Boonville over the period April, approximately, of 1969 when you commenced operations, until the end of 1969, the first year of operation?

Mr. Topkis: I have two objections to that question, your Honor. First, it's not the best evidence of what those costs may have been. If there was an (709) accountant who was keeping records, he ought to be produced to testify about them.

A man's vague memory—and I am not attacking Mr. Kilburn because we all have problems of remembering—is not the best evidence.

Second, the cost experience of this company Essex at Boonville has nothing to do with what our cost experience might have been forecast to be in May of 1968 when we assert our damages became fixed.

To begin with, the two plants are very different. We were running the country's largest, most fully automated aluminum plant. Essex was not doing that. They were bringing in molten metal from Alcoa in insulated containers.

Second, the whole question of their experience is irrelevant. It's our experience, our forecast, that is relevant.

* * *

(713) The Court: I gather it's the same situation we had yesterday with respect to Mr. Dunstan, and that is it's not the best evidence, but I guess it's some evidence.

The only question is the weight to be attributed to it. He can tell us if he recalls what the costs were, but it isn't the best evidence.

We will proceed on that basis.

Q. What is your recollection, Mr. Kilburn, of the costs per pound that you incurred at Boonville over the period from the commencement of operations until the end of 1969? A. That was the first year?

Q. Yes, sir. A. It would average out at about 4 cents.

Q. Do you recall how much it was when you commenced operations? A. Oh, it was a little over 5.

Q. Did you keep track of these costs on a monthly basis, a quarterly basis, or what? (714) A. A monthly basis.

Q. Monthly basis? A. Yes.

Q. You think it would have averaged out over this first year at approximately what? A. 4 cents.

Q. Now, Mr. Kilburn, when did you leave the Boonville operation? A. 1971.

Q. Do you recall what the costs were at the time that you departed Boonville? A. Approximately 2.9.

Q. Cents per pound? A. Right.

Mr. Hamilton: Your Honor, my next exhibit has been marked Exhibit D-730 for identification, and it's a tabulation of our claim of damages, which consists of the items that are listed here on this tabulation. You can see the description of the items on the left-hand side, the amount in the center column and the exhibits upon which they are based in the right-hand column. Mr. Kilburn has been through all of these and can describe them. I will be happy

to take him through some or all of them, but that is a summary sheet and it consists of (715) precisely what is set forth here on this summary sheet.

Mr. Topkis: As a calculation, I have no objection to it. I think what it means is self-evident. I think we can save time if it just comes in.

Mr. Hamilton: I would like to also offer the exhibits which are in the right-hand column which form the supporting basis for the exhibit D-730.

Mr. Topkis: May I confer with Mr. Hamilton for a moment off the record, your Honor?

The Court: Yes.

(Discussion off the record.)

Mr. Topkis: Your Honor, Mr. Hamilton tells me that the exhibits which he proposes to offer are invoices backing up the sums set forth in the middle column. On that representation, I don't object to the invoices.

The Court: All right.

Mr. Hamilton: I would like to offer, then, Exhibit D-730, which is the summary sheet.

(Defendant's Exhibit D-730 received in evidence.)

Mr. Hamilton: I have here, your Honor, all of the exhibits which are referred to as the back-up documents and are tabulated there on Exhibit D-730, and I would like to offer them in evidence.

The Court: We will consider those received,

* * *

Charles V. Kilburn, for Defendant—Cross

(717) *Cross-examination by Mr. Topkis*:

Q. Mr. Kilburn, do people go to lunch at Boonville? A. Yes, sir.

Q. Something in your union contract about people going to lunch? A. Well, we have a paid lunch hour, so they are supposed to eat when they can and we provide a lunch room that is 15 feet from the Properzi.

Q. Now, there came a time in April of 1968 when it was proposed that a second crew be trained for the Properzi; right? A. I think Intalco wanted to put a second crew on, yes.

Q. And at that time, in your judgment, the first crew was safe; is that right? A. I don't think I had any arguments on the crew, (718) no.

Q. I'm sorry? A. I don't think I had any questions about the crew.

Q. And you thought Mr. Weigand, the foreman, did a good job, didn't you? A. I said I thought he had potential; that he showed some immaturity and perhaps impetuousness.

Q. You thought he did a decent job? A. He did an average job, yes.

Q. A decent job? A. Yes.

Q. Now, you testified about some complaints that you had about AMAX' performance. You never put any single one of those complaints down on paper, did you? A. I don't recall that I did.

Q. For that matter, you never complained to AMAX, to anybody at Intalco, or to Essex in writing, did you? A. I don't recall that I did.

(719) Q. And you were possessed of a fountain pen? A. I think I made some general reports on that to Mr. Dunstan, speed memos.

Q. Well, you remember your deposition being taken in this case? A. Yes.

Q. At Page 82, Line 17, you were asked this question, were you not, and gave this answer:

"Q. So just to sum up, Mr. Kilburn, you did not complain in writing to anybody at Intalco, and you did not complain in writing to any of your own supervisors at Essex; is that right?

"A. Not that I recall." A. That is apparently what I said.

Q. Now, you installed the Properzi at Boonville in March of 1969? A. That is right.

Q. And it was working, operating satisfactorily in April of 1960; right? A. Well, again, define what you mean by "satisfactorily." I'm sure it wasn't up to top production at that time, but there were no insurmountable problems. It was a matter of just experience of the crews.

Q. Let me ask you again, were you asked this question (720) and did you give this answer at your deposition? Page 104, Line 5:

"Q. When did you get this machine installed at Boonville?

"A. March 1969.

"Q. When did you get it operating satisfactorily?

"A. April 1969."

Were you asked those questions and did you give those answers? A. Yes.

Q. And they were true? A. Yes.

Q. All right.

Now, sir, the problems that you had at Intalco, you solved them with changes suggested by Nichols, isn't that right, when you installed the machine at Boonville? A. In part.

Q. In very large part, would you say? A. No. They recommended certain things with respect to the cooling, with regard to the spout problems and so forth. I worked through another channel.

Q. Well, were you asked? A. Some of both.

Q. Some of both? (721) A. Yes.

Q. So far as the spout is concerned, people that made the spouts had come up with a resolution of the problem, and you adopted it, right? A. That is right.

Q. And so far as the casting wheel and the cooling and the matter of the mechanism for holding the belt to the wheel, those were changes that you made on recommendation from Nichols; is that right? A. Pretty much so.

Q. Well, let me ask you if you were asked these questions and gave those answers. Page 104:

"Q. How about the casting wheel? How did you solve the problem of the casting wheel once you got the Properzi to Boonville?

"A. There was another change on that. The recommendation in the cooling and recommendations of holding the mechanism for holding the belt to the wheel.

"Q. These recommendations were recommendations from Properzi to you?

"A. Through Nichols."

Were you asked those questions and did you give those answers? A. Yes.

(722) Q. And they were true? A. Yes.

Q. Now, so far as the wheel was concerned, the wheel itself, the changes that you made in the wheel came to you from Nichols direct and not from Properzi, is that right? A. That is correct. Plus some prior knowledge on it.

Q. So that with the guidance of Nichols as to the spout and the casting wheel problem, you were able to get the Properzi operating within a month or so of its installation, is that right? A. No, I didn't say that.

Q. Well, did you? Let's see, I will ask you whether you were asked these questions and gave these answers. Page 106, Line 10:

"Q. So that with the guidance of Nichols as to the spout and the casting wheel problem, you were able to get

the Properzi operating within a month or so of its installation?

"A. I don't know that Nichols was responsible other than conveying what somebody had developed.

"Q. Right. But regardless whom it came from—

"A. It came from them.

(723) Q. It came from them to you? A. Yes."

Were you asked those questions and did you give those answers? A. Yes.

Q. And you paid Nichols $3,000 for sending people in to help you when you installed the Properzi at Boonville, didn't you? A. That's right.

Q. And your testimony was taken on July 21, 1970, do you remember that? A. Yes.

Q. And at that time your Properzi was producing from 12 to 14 thousand pounds an hour, is that right? A. Yes.

Q. On one shift? A. Yes.

Q. And it was producing 750,000 pounds every two weeks? A. Yes.

Q. And the angle of the spout and wheel at Boonville, it was 20°, wasn't it? A. You are not stating the question right, sir. I think you mean the machine.

(724) Q. I beg your pardon, sir, you are absolutely right. Forgive me. A. Yes.

Q. And that Intalco, it had been 25°? A. Yes.

Q. And Mr. Li had wanted to reduce it from 25 to 20, hadn't he? A. He had suggested that, yes.

Q. Now, Mr. Kilburn—

The Witness: Could I have that question again, please?

(Record read).

A. I'd correct my answer that Mr. Li wanted it reduced much more than 20°.

Q. I see.

And you reduced it to 20° and that did the trick, right? A. Well, I reduced it to that for another purpose.

Q. Very good.

Now, when you went to Boonville with that machine and began to install it, you expected to succeed with it, didn't you? A. Certainly.

Q. And, as a matter of fact, even in May of 1968, (725) before you pulled the machine out of Intalco, you expected to succeed with it there, didn't you? A. At Intalco?

Q. Yes, sir. A. I always hoped that we could.

Q. You expected that you could, didn't you? A. I expected that if we could have all the right conditions we could. We'd have to go through a big design and development program if we were going to do it.

Q. You knew that other companies with the No. 8 had succeeded, didn't you? A. Not with the same setup.

Q. You mean Alcoa had the Properzi at its own plant and so did General Cable; is that right? A. Well, they had all made modifications.

Q. They had made modifications and you hadn't? A. I don't know exactly which ones they had made at the time.

The Court: I don't understand the question. Are you asking whether they had made modifications at this point?

Mr. Topkis: Yes.

The Court: That he knew about?

(726) Mr. Topkis: Yes.

A. I didn't know what modifications they had made.

Q. You knew that they had made some modifications and that they were working the machine satisfactorily, is that right? A. No, I didn't know that.

Q. You didn't know that their machines were working satisfactorily? A. That's right.

Q. Now, Mr. Kilburn, Mr. Hamilton asked you questions about whether there was originally to be a secondary

cooling system on the Model 8 Properzi, and you said yes, there was supposed to be [illegible] right? A. Right.

Q. Now, in point of fact, there is no Properzi No. 8 operating in the United States which employs a secondary cooling system; isn't that right? A. Not to my knowledge.

Q. That is to say, you know of none? A. That's why I said, yes.

The Court: I don't understand the significance of that. You mean they found it wasn't necessary for the secondary cooling system?

Mr. Topkis: That seems to be the fact.

(727) Q. Is that right, Mr. Kilburn? A. No.

Q. You found an alternative? A. Well, they had to do a lot of redesign.

Q. And you got that done, and by April of 1969 you were in satisfactory production; right? A. Yes.

The Court: And this machine had been moved when, in '68?

Mr. Topkis: It left Intalco around July 1st of 1968.

Q. Is that right? A. I think that's essentially right.

Mr. Hamilton: Plus or minus a week or ten days.

The Court: July 10, '68.

Mr. Topkis: About July 1, '68.

Q. Mr. Kilburn, you testified as to certain costs that you had at Boonville with the Properzi; right? A. Right.

Q. And you were testifying about the cost of taking hot metal and transforming it into rod; right? A. That is right.

Q. You were not testifying about the difference (727a) in cost between producing Properzi rod and producing T-ingot, were you? A. No.

Mr. Topkis: I have no further questions. Thank you.

(728) *Redirect examination by Mr. Hamilton:*

Q. Mr. Kilburn, I think you just testified that, to the best of your knowledge, no one currently operating a Model 8 Properzi was using the secondary cooling system designed by Mr. Properzi, isn't that correct? A. As far as I know, that is correct.

Q. Wasn't that supposed to be the big feature of the Model 8 Properzi? A. Yes, sir.

Q. Wasn't that supposed to be what would make it operate at this 14,000 pound per hour rate? A. Yes, sir.

* * *

(730) Q. Now, Mr. Kilburn, Mr. Topkis read from your deposition concerning recommendations made by Nichols, and he went on, on Page 106, and stopped with Line 19. Line 20, the question that was asked you, was this:

> "Q. And using this advice, you were able to get your Properzi operating satisfactorily in about a month or so? (731) A. It contributed, yes."

Now, Mr. Kilburn, did you make some contribution yourself to the equipment changes which were made on the equipment at Boonville? A. Yes.

Q. Would you describe for her Honor what, in general terms, what your contribution was to these changes? A. Well, you mean in the way of design?

Q. Yes. A. Well, we added our concept of an anti-cobbler. We helped develop the spout problem.

Q. This is the spout? A. Yes.

Q. Did you contribute to the new cooling system that was designed for this equipment? A. Yes. We added—

we made a new manifold, and put these jets so that they would be directed in the right directions.

Q. And to your knowledge, has anybody else done this to the equipment? A. I'm sure they must have to make it work. I haven't seen any of those.

Q. Have you not seen any of the other Model 8 (732) Properzis, Mr. Kilburn? A. No, sir.

Q. Let me ask you this: You indicated that in May of 1968, while you were at Intalco, you believed, I think, that ultimately you would be able to make the Properzi function. A. Yes.

Q. Is that correct?

Tell me this: Absent these changes in design and changes in equipment, Mr. Kilburn, do you believe you would ever have been able to make the Properzi work? A. Never, to the extent that we're talking about on specifications.

Q. That is, never up into 14,000 pounds per hour? A. Right.

Q. Is there any question in your mind about that at all, Mr. Kilburn? A. No, sir.

Q. Now, you also testified, Mr. Kilburn, about some suggestions that were given to you by Nichols, or at least relayed to you by Nichols, which originated elsewhere, and which you incorporated in the machine; isn't that correct? A. That's right.

(733) Q. Regardless of the source of these changes, Mr. Kilburn, were they all different from the original specifications given to you by Mr. Properzi? A. Yes.

* * *

(742) Mr. Topkis: Next, your Honor, I have to confess error. In our blackboard computations, your Honor will perhaps recall, I think Mr. Dunstan called to our attention the fact that our arith-

metic was wrong. In substracting 2.1 million pounds from 108 million, we got 106,019,000. He pointed out, quite correctly that we should have gotten 105,900,000, and what I have done, your Honor, since we had previously furnished your Honor with a copy of the blackboard computations, I have revised them to carry through the correction of that arithmetical mistake, and I would like to offer as our next exhibit a (743) copy of these revised calculations. I will certainly be willing to have Mr. Hamilton check me again, and if I turn out to be wrong again in my arithmetic, why, perhaps we'll have to revise again. But I hope not. We have double-checked this.

Mr. Hamilton: No objection.

* * *

(744) At this point, then, as its last witness, the plaintiff would like to recall to the stand Mr. Herbert Clough.

HERBERT C. CLOUGH, recalled as a witness by the plaintiff in rebuttal, having been previously sworn, testified as follows:

The Clerk: Mr. Clough, you are still under (745) oath.

Direct examination by Mr. Topkis:

Q. Mr. Clough, you remember, when you were testifying before, you told us that in 1969, after you returned the check to Essex, they continued to buy copper from you. You told us that they bought, I think, 750 tons; do you remember that testimony? A. That's correct.

Q. Try to keep your voice up, please, Mr. Clough. A. Excuse me. That's correct.

Q. Thank you, sir.

What price did they pay for that copper? A. The total sale amounted to about a half a million dollars.

(746) Q. Now, also after you returned the check, did you have any other copper dealings with Essex? A. Essex continued to convert scrap to copper products with us for some time thereafter.

Q. When did they stop? A. About March 1970, at which time they activated their own reverbed furnaces, which I believe allows them to convert their own product.

Q. So, during '69 and the first part of '70, you were converting copper for Essex, is that right, copper scrap? A. Yes.

Q. When you speak of a reverb furnace, what is that? A. Reverbabory furnace which is used to melt down the copper scrap and allows the skimming and removal of the foreign material and tapping off of the pure copper, which is then electrolytically purified further so it can be reused in normal types of products.

Q. And they went on having you do that work for them until sometime in 1970 when they built their own equipment? A. Yes.

* * *

(748) Q. Will you give us the figures, Mr. Clough, the figures for your billings to Essex in '69 and '70 for this copper scrap? A. With or without reference to this?

Q. If you know it from memory, fine. If you have it jotted down somewhere, fine. A. Well, in the year 1969, the total amount was about 2,500 tons conversion. In 1970, until the time they stopped in March 1970, was 550 tons.

Q. And do you remember what the price was (749) approximately per ton for this conversion service? A. Approvimately $50 a ton.

Q. Now, in aluminum, Mr. Clough, after you returned the check, did you have any dealings or attempted dealings

with Essex? A. We had conversations on continued billet purchases held in January 1969 between Mr. Ed Murray at Essex and myself. They issued us a purchase order in January 1969. When it arrived, I found that the price shown on the purchase order was at variance with what I had understood we had agreed to, pricewise. Whereupon —he was off on vacation. I tried to call him. So I wrote him a letter and pointed out this—

Q. No need.

In any event, you rejected the business; is that right? A. Yes ,sir.

Q. Now, Mr. Clough, you remember that when Mr. Briggs was on the stand he testified that the T-ingot cost at Intalco in May of 1968 was 16.2 cents, and you remember then Mr. Hamilton cross-examined him about the T-ingot cost in subsequent years.

Do you remember that? A. Yes, sir.

(750) Q. Mr. Briggs said that it went up. A. Yes.

Q. Now, does Intalco regularly compute its T-ingot cost figures?

Mr. Hamilton: I object, your Honor. This man isn't even affiliated with Intalco. I don't see how he can testify about this.

Mr. Topkis: I will develop that, your Honor.

Q. Does it, to your knowledge?

Mr. Hamilton: I object, your Honor, unless we have some indication that this man has any connection with Intalco.

The Court: He has just asked whether he knew of his own knowledge. Let's hear the answer.

Q. Do you? A. Yes.

Q. Does it annually receive and distribute to its interest holders, namely, AMAX and Howmet, audited financial statements prepared by Price Waterhouse & Company, which contain, in addition to other information, the annual T-ingot cost per pound of aluminum sold? A. Yes, it does.

Mr. Topkis: I have those four reports for (751) the years '69 to '72. And so that we may have the accurate figures, rather than Mr. Briggs' statement that the figures went up, I would ask that the witness be allowed to read the figures into the record, and I will, of course, let Mr. Hamilton take a look at the entire documents.

I don't see why the record should be burdened with the entire documents.

May we proceed in that fashion, your Honor?

The Court: Yes.

Mr. Topkis: All right.

These are documents, I might say, headed, "Intalco Aluminum Corporation, Statements of Sales, Aluminum Accounts Receivable, Cost of Sales and Price of Metal Statement for the Four Years Ended December 31" of years to which I adverted.

On the first page, at the bottom of the 1969 statement, appears the language, "Cost per pound of aluminum sold, 15.8390 cents."

For the year 1970, the figure is 17.928 cents.

For the year '71, the figure is 17.158 cents.

For the year 1972, the figure is 17.455 cents.

Q. Mr. Clough, you remember also that Mr. Briggs checked the figures published in American Metal Market (752) for the so-called book price of ingot, and he gave us the figure as it stood in 1968.

Do you remember that? A. I believe it was May 1968 that he was using.

Q. Yes.

Have you checked the subsequent changes in book price? A. Yes, I have.

Q. Can you tell us what they were? A. Yes.

Q. If you have a note of it, you may refer to it. A. I can give you the year by year, if you would like.

Q. Please do. A. In May '68, when Briggs made his calculations, it was 25 cents; on June 1, '68 it rose to 26; January 18, '69, it rose to 27 cents; October 13, '69, to 28 cents; April 14, '70 to 29; May 11, '72, it dropped to 25 cents; and the last change was on December 10, '73, it went back to 29 cents.

Q. Very well, Mr. Clough.

Mr. Topkis: I have no further questions. Thank you.

(753) *Cross-examination by Mr. Hamilton*:

Q. You are familiar, are you not, with a book entitled "Yearbook of the American Bureau of Metal Statistics?" A. Not very.

Q. Didn't you testify, Mr. Clough, that you have operating responsibility at American Metal Climax in the aluminum business? A. Yes.

Q. And you are a major executive at American Metal Climax, aren't you, Mr. Clough? A. It might be characterized that way.

Q. Do you remember where you got those numbers that you just read in for the prices on the American metal market of aluminum? A. This is from our records, AMAX's records.

Q. Do you know a man by the name of Ian McGregor? A. Yes.

Q. What relationship does he have to you? A. He is chairman of the board of American Metal Climax, Inc.

Q. Mr. Clough, this book that I have in my hand has the monthly average prices of aluminum for New York on a (754) monthly basis, covering the period 1966 through 1972.

Here it is on page 104. (Handing). A. These seem to be what we have here also.

Q. But this is on a monthly basis, isn't it, Mr. Clough, whereas you were giving a yearly basis? A. No. I was giving the date of change in the published price, published book price. So that if you will notice in the month of May here when I mentioned on May 11 the change from 29 to 25 cents, you will see that this is a composite of the two apparently weighted by days.

Q. I understand, Mr. Clough.

Mr. Hamilton: I would like to offer in evidence, your Honor, a copy of page 104 from this volume which sets forth the monthly average price of aluminum on the New York market covering the period 1966 through 1972.

Mr. Topkis: May I inquire of counsel, your Honor?

The Court: Yes.

Mr. Topkis: Mr. Hamilton, is this what is referred to in the contract as the price published in the American metal market?

Mr. Hamilton: I believe it is.

Mr. Topkis: Then I have no objection.

Mr. Hamilton: Just for convenience, your Honor, (755) I have also included in the exhibit the cover page of this book so that we know at some future time, if necessary, where it came from. I offer that as Exhibit D-735.

Herbert C. Clough, for Plaintiff—Rebuttal, Cross

(Defendant's Exhibit D-735 received in evidence.)

Q. Now, Mr. Clough, what does that price represent? A. It represents what is commonly known in the trade as the list or book price quoted by the consensus of the major aluminum suppliers.

Q. Book price of what, Mr. Clough? A. Of 99.5 purity ingot delivered to the customer's location.

Q. Is that T-ingot? A. T-ingot is the most common form.

Q. Now, Mr. Clough, the price here for May of 1968 I notice is 25.000 cents per pound, isn't that correct? A. Yes, sir.

Q. And I notice that the price assumed by you in the calculation of damages for T-ingot in May of 1968 is 22.1 cents, some three cents below the book price. A. Right.

Q. Would you explain why you elected to knock three cents off the book price in this calculation? A. Because that is what we were selling it at. What happens in the industry is that this is a price from which (756) discounting is done.

For example, in today's market, because of a very tight supply of aluminum, there is a substantial premium.

You want me to elaborate a little bit?

Q. Well, I would like to know, Mr. Clough, how you know that in May of 1968 there was a discount of three cents? A. Because that's what we were selling it for at that time.

Q. Who is "we"? A. AMAX.

Q. American Metal Climax? A. Yes, sir.

Q. And how do you know that it was 22.1, Mr. Clough? A. Because we reviewed the records, the invoices in making these calculations.

Q. Are you telling me, Mr. Clough, that no one was selling it for 25 cents a pound? A. I am certain no one was selling it for 25 cents unless they had some sort of a tie-in deal which did not represent the going market at that time.

Q. What is the purpose of publishing these market prices, Mr. Clough, if it is some kind of a fiction and they don't bear any relationship to actual selling prices? A. That is a question which is debated and discussed in the industry and has been since I have been accustomed (757) to it. It does represent a price which presumably is striven for and presumably represents a market which the producers would like to adhere to.

Q. That the producers would like to adhere to. Have you ever heard of the Sherman Act, Mr. Clough?

> Mr. Topkis: Wait a second, your Honor. This whole line of inquiry has nothing to do with this case and certainly nothing to do with my direct.
>
> The Court: You are not going to try any anti-trust claim here. So let's drop it.
>
> Mr. Hamilton: All right, your Honor. I certainly dispute his claim that it has nothing to do with the case, your Honor. It is a key to their damage calculation, evidenced right there.

Q. You indicated that in January 1968—'69 you got a purchase order from Mr. Murray of Essex, is that correct? A. Yes.

Q. When you got that purchase order, you noticed that there was a discrepancy in the price that you thought you had agreed upon, is that correct? A. That's correct.

Q. What did you do when you saw that discrepancy? A. I tried to call Ed Murray and found that he was (758) off on holiday or he was away, at any rate.

Q. So then what did you do? A. I wrote him a letter.

Q. Let me ask you this, Mr. Clough:

In July of 1968 you received—you had a conversation with Mr. Dunstan and Mr. Seifert, didn't you? July 25, 1968? A. Yes.

Q. Shortly thereafter you got a letter from Mr. Seifert, didn't you? A. Yes.

Q. And that did not conform to your understanding of the previous agreement, isn't that correct? A. Yes, sir.

Q. Did you then call Mr. Seifert, as you did Mr. Murray, six months later? A. No, sir.

Q. Did you then call Mr. Dunstan as you did with Mr. Murray, six months later? A. No, sir.

Q. Did you send either one of them a letter as you did six months later with Mr. Murray? A. No.

Q. Why? A. We were facing what I thought was a substantial (759) lawsuit and I consulted counsel. And as I previously testified, there was long discussion and debate as to what should be done. I merely did exactly what my lawyers told me to do.

* * *

Deposition of Thomas D. Kaufmann

(3) THOMAS D. KAUFMANN, residing at 114 Pavilion Road, London S. W. 1, England, having been first duly sworn by the Commissioner of Deeds, was examined and testified as follows:

* * *

(9) Q. That may be true also, Mr. Kaufmann. Let's look here at the attachment, which is headed, Essex Wire, Proposal for Fifty-Fifty Venture, and then the venture is (10) the building owning and operation of an aluminum reduction plant.

I interpret that to mean the proposal that you sent to Mr. O'Malley whereby Essex and AMAX— A. Well, let's take a look at this.

I guess you are right—I guess at that time we were talking about a fifty-fifty venture—I am sorry.

Q. Is that your handwriting at the top of the second page of this exhibit? A. Yes.

Q. Would you read that for me, please. A. It says, spoke to O'Malley. Says looks fine. Will call on return.

Q. Tell me now what happened in connection with this proposal that you made to O'Malley. A. We started to get reports from various people; two of our directors, in particular, spoke to us. They said they didn't think Essex was the type of company to be a partner with American Metal Climax.

Q. Who were the two directors that you are referring to? A. Harry Plym and Mr. Read.

Q. Are they AMAX people or are they independent directors? Are they also officers or employees of AMAX? (11) A. Yes and no. Larry Plym was the owner of the Kawmeer Company.

Q. And Read? A. Read was a major stockholder—they both were major stockholders. They both had consultant type jobs, they both kept offices in AMAX.

Q. What was the nature of their objections to a joint arrangement with Essex? A. That the company and its officers had poor representations, that they would not be good reliable partners, and in a venture of this nature, it was highly complicated, depending on a lot of rapport from day to day—they probably wouldn't be the type of people you could get along with.

Q. Their reputations were unsatisfactory in what respect, Mr. Kaufmann? A. This is about the way it was presented.

At the same time, or before that, there was a fair amount of litigation with Essex that came out in the press, on another case. I don't remember what it was about.

Q. What individuals at Essex were being referred to? O'Malley, I presume? A. And Mr. Probst.

Q. Anybody else? A. No.

(12) Q. Did you continue your discussions with Essex concerning a possible joint relationship? A. Well, we backed away from them—yes, we continued talking, but a lot less enthusiastically.

Q. How soon do you recall getting this report from Messrs. Plym—is it Plym? A. Yes.

Q. And Read? A. It was not a report, they just took us aside and said, we don't think you should do it.

Q. However they did it, can you place it for me approximately in time? A. Yes. It happened several times. The last time I remember was when we opened INTALCO, which was in September 1966.

Q. September 1966, these contracts that are the subject matter of this dispute were signed in December 1966; does that coincide basically with your recollection of the date? A. Yes.

Q. And you nonetheless went ahead, I presume, and entered into this kind of relationship with Essex? A. This is a good way to test them.

Q. Did you say test them? (13) A. To test them, and see how it would work out.

Q. Your understanding of these two contracts is that this was a means of testing Essex. Is that fair? A. Not in completion, no, but this was—

Q. This was part of it? A. Part of it, yes.

Q. Did you have anything to do with the negotiation of the two contracts which are the subject matter of this litigation? A. Yes, I did.

Q. I show you a memorandum which has been marked as Exhibit 94, Mr. Kaufmann. Is this your handwriting sprinkled at the bottom of the page? A. No.

Q. At the last sentence you will see it says Tom Kaufmann is drawing up an agreement. A. Yes.

Q. I presume, in fact, you did draw up an agreement following this meeting? A. Yes.

Q. Is Exhibit 95 the covering letter and the agreement that you had prepared? A. Yes.

May I say something here—this is their suggestion. (14) It was their idea.

Q. What was their idea? A. To put the Properzi out in INTALCO.

I want to make that clear, when you say we thought this up as a test, no. I was out there with O'Malley, showing him the plant, and he saw the corner of the cast house—he suggested, it was his idea, I had never heard of it, to set up Properzi machine.

Q. This meeting that you had in Bellingham at INTALCO was prior, then, to this August 15th memo? A. Oh, yes, yes.

* * *

(16) Q. What happened then following this meeting in Bellingham where O'Malley suggested the possibility of a Properzi? Did you make some calculations of your own, or this meeting of August 15th, was that the next one— A. That was the next step.

Q. I said August 15th, Mr. Kaufmann. I meant (17) August 5th. A. I am not sure. We had two meetings. We had one meeting in the East and one meeting at O'Hare, and I don't remember.

Q. These were both preliminary types of meetings? A. One was a preliminary type of meeting, with O'Malley and Furbacher, and the second one was over the draft contract with O'Malley—I think Probst was there, Furbacher and myself, on the contract.

Q. That was after a draft had actually been prepared? A. Yes.

Q. Who actually drafted the contract? A. Dave Farley and myself.

Q. Dave Farley, did you say? A. Yes, David Farley.

Q. Do you recall whether you originated all the drafts or Essex originated some? A. We originated them.

Q. You originated the drafts? A. Yes.

* * *

(19) Q. Prior to this time, Mr. Kaufmann, I believe you said that you had information from Messrs. Plym and Read that they were not enthusiastic about a joint relationship with Essex. A. That is right.

Q. Did you make any investigations, yourself, concerning the validity of their criticisms of Essex? A. Investigation is a formal word—no, I did make inquiries.

Q. Will you tell me the nature of the inquiries that you made. I don't mean formally. I mean, what did you (20) do to test out the criticisms of Essex that had been given to you? A. I asked other people in the trade; I can't remember exactly who, and other people on Wall Street. They were intending to go public, or had gone public at that time, as was rather well known.

They were also involved in some other lawsuits at that time.

Q. What was the result of these inquiries that you made? A. Severe doubt.

Q. Did you discuss your severe doubt with Mr. Furbacher? A. I did.

Q. Do you recall the substance of your discussions with him? A. Yes. He too had some doubts, but he thought we should at least go ahead with these two contracts.

Q. To see how they worked out; is that it? A. Well, this was a big business, there was a fair amount of money involved in selling them this much aluminum, and running the Properzi machine seemed to be a good deal—it was a good venture in itself.

Q. But you had doubts about Essex? (21) A. As a partner in a reduction plant.

Q. Do you have doubts about Essex as a partner in that operation at Bellingham? A. Not really, no.

Q. What was the difference between having Essex as a partner in one activity as opposed to Essex as a partner in the other? A. It was a much smaller—a much smaller venture. There were many fewer things that could go wrong, and this was a straightforward deal, we were going to be supplying them with metal, and they were going to be using the metal, and the question, once the machine got running, we would be running it, we knew how to run it, and we would be master of the production and they would need the metal and we would sell them the metal to both of our advantage.

It seemed to be a good, straightforward commercial deal.

Q. Did you ever discuss your doubts with Mr. MacGregor? A. Yes.

Q. Will you tell me the occasion on which you did this. A. At the opening of INTALCO, right after we had spoken to Read and Plym.

(22) Q. When you say "we had spoken to Read and Plym," whom do you mean? A. Furbacher.

Q. You and Mr. Furbacher talked to Read and Plym after that opening? A. Yes.

Q. Then what did you say to Mr. MacGregor? A. We explained what other directors had thought, and he listened.

Q. Did he say anything? A. No, but that wouldn't be unusual.

Q. Following the execution of these two contracts, which are dated in December 1966, did you continue to have discussions and negotiations with Essex concerning potential joint venture in a reduction plant? A. No, I think you will find that we changed our posture considerably, that we continued to tell them about our plans for reduction plants at various different sites, that we had—we had arranged to go as equal partners in the feasibility study that Bechtel made.

We never did send them the final edition of it, we never sent them a bill for their half of the study.

* * *

(26) Q. Do you recall discussing the possibility of erecting an aluminum reduction plant in Newfoundland? A. Yes.

Q. Did you actually go up to Newfoundland and look over a site? A. I was very active in negotiating for a site in Newfoundland for about a year and a half or two years.

I remember telling O'Malley about it. We told him about many of the sites we were discussing, and kept him abreast of our plan.

Q. Why were you doing that? A. He was asking. He asked to come up to see Newfoundland and we never invited him up.

Q. This document which I now show you, and which is Exhibit 87, dated October 19, 1967, that is a memorandum that relates to this Newfoundland site. Is that not true? A. Yes.

Deposition of Thomas D. Kaufmann

Q. Can you by looking at the document tell me approximately how much before October 1967 you first began to consider Newfoundland as a possibility? A. I would have to go through this—I don't remember if this was the first or second time we were up there. I think this is a memorandum on our—on my second trip (27) I took.

Q. You made two trips? A. I made maybe four or five.

Q. Did O'Malley inquire of the possibility of going up to Newfoundland to look at the site? A. He did.

Q. He didn't go, however, I presume? A. I never invited him.

Q. Why not? A. The same reason I didn't bill him for the feasibility study.

Q. Which was, as I recall, that you did not want to have an obligation, and that you were not, in fact, going to go into any kind of joint venture with him; is that right? A. The odds were that we were not, yes.

Q. Did you ever tell him that you really were not interested in expanding your relationship with Essex? A. I don't think so. I told Jim Dunstan this some time later.

Q. When did you tell Dunstan? A. When Dunstan called me and asked when they would be going up to Newfoundland, I told him this was a poor time to ask, that they had behaved so poorly under the Properzi (28) contract that I didn't think they would be really welcome as partners in a reduction plant, and if O'Malley was really being interested in being a partner with us, he wouldn't press it at that time.

Essex was not a favorite word around AMAX at that time.

Q. Do you remember when the "at that time" was? A. No. I suspect that it blew up enough to put it in the files somewhere.

Q. Let me show you a copy of an exhibit, Mr. Kaufmann, which is dated March 13, 1968. Please read that whole exhibit, and then I will ask you a couple of questions.

Does that memorandum reflect the telephone conversation with Dunstan that you have been talking about? A. I think so, yes.

Q. Do you remember what Dunstan's reaction or commentary was to what you told him? A. In so many words, no.

Q. Do you recall the substance of what he said? A. Yes. He understood what I was saying.

Q. Do you recall having any discussions with either O'Malley or Dunstan about Newfoundland subsequent to this telephone conversation, as reflected in Exhibit 39? (29) A. I don't recall.

Q. Did you have any further discussions about any kind of joint operation with Essex after this conversation that you can recall? A. No.

* * *

(33) Q. What was the purpose of this meeting on January 8, 1968?

* * *

Q. Mr. Kaufmann, look at Exhibit 125 for identification. Do you remember that document? A. Yes. That was a large part of the agenda of the meeting.

Q. That was the agenda of the meeting? A. Yes.

(34) Q. Do you recall who had arranged the meeting or who had requested the meeting? A. This is only part of it. No, I don't—they wanted to have a meeting, we wanted to have a meeting, we were starting it up and it seemed like a good idea. I do not remember on whose initiative this meeting was set up.

Q. Were you aware at that time of any problems that had arisen in connection with the operation and the functioning of the Properzi? A. It had been damn late in arriving, that is number one. Second, there were—it had not been set up—it was not running at that time, it was not being installed.

Third, we were a little—I was concerned because I thought—it turned out that I was right, that I did not have a real agreement over the price of metal. We did not have an agreement over the costs that were being incurred in the start-up at this time.

There were a lot of loose ends of that sort going around, and so the natural gripes back and forth when you have split responsibility in a plant, when something ain't working, who is or was not cooperating with whom.

Q. You said that you were concerned that you did not have an agreement on price. A. Yes.

(35) Q. Will you elaborate on the nature of your concern about price? A. Yes. We—there is a hiatus in this contract, if you notice, that we were going to be buying metal—we were selling metal, rather, in the form of rods subsequent to the Properzi being installed and running properly.

During the start-up period, they needed metal for—to run through the machine, to work with, and a fair amount, and there was no agreement as to what the price of that metal would be, the hot metal going into the furnace.

Q. And it was this price that you were concerned about? A. It was that price—I had spoken to Dick Publow about it over the phone, and he actually came to Greenwich for a meeting when we discussed it, and I stated a price which was approximately the same price we were transferring metal to our own divisions at that time.

He didn't say yes, he didn't say no, and I said, all right, that will be the price, then.

He called me back and said, no, it was too high a price.

I said, we will have to negotiate price or I am going to stop putting metal into it—no price, no metal.

Q. Were you able to resolve this difference? (36) A. And, well, this was the price we were charged and he reluctantly said yes, but he was not sure whether that yes would stick, and I knew we had a problem.

Deposition of Thomas D. Kaufmann

Q. And you discussed this, then, at this meeting on January 8th, this price problem? A. I don't know whether we did or if we didn't, but that was one of the purposes.

Q. Did there come a time when you worked out this price problem with Dunstan? A. I think it did come up again, it was settled, and I don't remember whether I settled it with Jim or I settled it with Dick—with Jim Dunstan or Dick Publow.

Q. But it was in fact settled? A. It was settled at some point.

Q. What was the price it was ultimately settled upon? A. I don't remember. It was around 22 cents a pound.

Q. Was it the price you were charging your other divisions for metal, or was it some other theory, without getting into the numbers? A. It was approximately the same price. We charged different divisions different amounts, depending on the quality and the work that went into the metal.

Q. You also mentioned that you were concerned (37) at this time because there was no agreement on cost. A. Yes.

Q. Will you elaborate on this element of concern that you had in January 1968. A. They were using INTALCO personnel.

Q. "They" being Essex? A. Essex were using INTALCO personnel.

Q. Yes? A. To install, to maintain and to help run the Properzi.

We really had no detailed agreement as to what these charges should be for these costs.

Q. Did you raise this subject with Publow prior to January 1968? A. Prior to February?

Q. Prior to January 1968, prior to this meeting. A. No, we had agreed that this was something we should go over and review.

Q. And you went over and reviewed this with Dunstan at the meeting, then? A. I think we did. It was years before any agreement was made.

Q. Did you ever make an agreement on those costs? A. I did not. I think Clough finally did.

Q. But you never did? (38) A. I think I got down to the part where we had everything except the overhead cost · agreed, yes.

Q. You indicated also, I believe, that you had some concern at the time of this meeting in January 1968, concerning the split of responsibility on operations, or at least there were problems surrounding that split of responsibility. Is that correct? A. Right.

Q. Would you elaborate on that. A. I don't know if they are real problems.

Kilburn complained he was not getting full cooperation f ,n the INTALCO crew, which surprised me, because they were a very loyal group there, and we had let them know that this was an important priority project. This was a large customer, and an important customer to us.

I made a number of inquiries when I was out there, and was satisfied that they had not gotten any lower priority than anybody else in the plant, and, in fact, had probably gotten a higher priority on our maintenance crews, and I was sure that if there had been any problem it would not continue.

Q. Was maintenance the problem that Kilburn had been primarily complaining of? A. Access to the maintenance crew.

(39) Q. What did you do to investigate the validity or invalidity of that particular complaint? A. I spoke to three superintendents who were involved, to see what they had done in response to Kilburn's request, and how long it would take them to respond, and what other problems they had at that time.

Deposition of Thomas D. Kaufmann

Q. Was it your view that the Properzi was entitled to a higher priority on maintenance than the other operations, or the same priority, or a lesser priority? A. Actually, a slightly higher.

Q. Why? A. Because it was late, and the market was—I knew the essential market was deteriorating, we wanted to get out as much metal as we could as soon as possible, and unless the Properzi got going, Essex would not be in the mood to buy it.

Q. Following this meeting in January 1968, did it ever come to your attention that Kilburn was continuing to complain about maintenance delays, or maintenance problems? A. Yes.

Q. How did it come to your attention? A. The boys in INTALCO told me.

Q. Yes? (40) A. But I was not aware that this was worrying either Publow or Dunstan.

Q. You thought it was worrying Kilburn? A. Yes.

Q. But that was the extent of the problem; is that right? A. Well, Kilburn was not being successful in getting this machine to work. This was an excuse which he had.

Q. Did you investigate at these later times the validity or invalidity of his complaint? A. In depth? No.

Q. Did you do anything at all? A. Yes, I discussed this with the plant manager, Loyer and Ferrie, with Bob Ferrie.

Q. Anybody else? A. I may or may not have discussed it with the cast house manager—cast house superintendent, and the quality control man—I never remember his name.

Q. Li? A. Gustafson.

Q. Were you aware of any complaints by Mr. Kilburn about C. K. Li? A. Yes. I don't think Charlie liked Li especially, or had much confidence in him. But I don't remember ever (41) having Kilburn speak to me directly about Li, no.

Q. How did you find out about Kilburn's dissatisfaction with Li? Do you recall? A. No. It just came from the gossip at the plant.

Q. When you were investigating maintenance delays, did you do anything other than just talk to these people that you have mentioned? A. No.

Q. Did you form any conclusions as to the validity or invalidity of Mr. Kilburn's complaint in this regard? A. Yes. My conclusion was that he had not gotten all the action he had asked for, but he had gotten a rather high priority with regard to the rest of the plant.

If I were running the plant, I don't know that I would have given him any more service than he had gotten.

* * *

(64) Q. Who is the author of Defendant's Exhibit 319 for identification? A. Dennis Arrouet was my assistant.

Q. Just a general assistant or did he have some specific responsibility in connection with the Properzi? A. At one point, and I am not sure whether this was before or after this date, he was made comptroller of the primary metal division, or whatever we called the unit. I think it was a division.

Q. Was he an accountant? A. He was not a professional accountant, no.

Q. Were his responsibilities basically in the area of accounting? A. They were.

* * *

Deposition of Richard H. Publow

(3) RICHARD H. PUBLOW, having been first duly sworn by Nathan Borak, Notary Public, was examined and testified as follows:

* * *

(13) Q. Did there ever come a time during the course (14) of those negotiations when Mr. O'Malley asked you for your opinion with respect to the proposed agreement with Amax? A. Yes.

Q. Did you have conversations with him about the proposed agreements? A. Many times.

Q. What was the substance of those conversations? A. That we could not be competitive with Amax.

Q. Did Mr. O'Malley say that? A. I tried to convince him that we couldn't be competitive with it.

Q. What do you mean by saying "We couldn't be competitive"? A. With respect to the people we were doing business with. In other words, the price is too high for comparison with what our competitors were doing.

Q. You had discussions with Mr. O'Malley concerning the price which was to be included in the Amax agreement? A. You bet.

Q. What did you say to him and what did he say to you during those discussions? A. We had another arrangement possible with Conalco (15) which would have given us the same price of metal that Phelps Dodge had, which was much lower than Intalco's. And Phelps Dodge is one we had to compete with every day.

Q. Did Mr. O'Malley ever ask you which proposal you thought was better for Essex? A. Sure.

Q. What did you tell him? A. Conalco—

Q. You didn't tell him to proceed with the Amax agreements? A. I did not.

Q. Did Mr. Dunstan also participate in any of those discussions? A. Some of them. I don't know whether he participated in all of them, but I know he was in some of them.

Q. Were you ever present when Mr. Dunstan and Mr. O'Malley were present when the proposed agreement with Amax was discussed? A. You mean not with Amax?

Q. Right. A. Just the three of us?

Q. Or other Essex personnel. A. Yes.

Q. Did Mr. Dunstan make statements with respect (16) to the proposed Amax agreement? A. Yes.

Q. What did he say? A. He was against it, too.

Q. When you say he was against it— A. Against signing the agreement with Amax.

Q. What was the reason he gave for being against it? A. Costs were too high on account of freight.

Q. What freight cost was too high? A. The freight coming from Intalco to Paducah, Kentucky, put us out of the ball park, as far as price was concerned.

Q. Let's see if we can explain a little bit. Where was the Intalco plant located? A. Bellingham, Washington.

Q. Where was the Paducah plant located? A. The western part of Kentucky, just across the Mississippi River.

Q. Aluminum was to be produced at Intalco? A. Yes.

Q. What would happen to it then? A. Be packed in freight cars and shipped to Kentucky.

Q. And the freight charge that you referred to (17) before was what freight charge? A. The freight charge from Bellingham to Paducah.

Q. Was the Amax agreement signed? A. Yes.

Q. Over your objection?

Mr. Hamilton: Objection. That is ridiculous. I object as to form.

Q. You may answer. A. Yes, over my objection.

Q. You made a reference earlier to not being competitive. Could you tell me what you meant by that? A. All of the aluminum cable business is a highly competitive business. And it is based principally on the fact that you get

metal into the mill at the right price, because much of the cable that is used is nothing but aluminum, drawn and insulated. Big poundage of it. So small amounts of difference in price on aluminum make a lot of difference in how competitive you are. Like Con Edison here goes out for bids once a year, and if you don't get the bid this year you are out until next year, so it is a highly competitive situation. The metal prices are very important to the utility cable field.

* * *

(22) Q. Could you tell me in 1967 and 1968 approximately how much rod it was using in that connection?

Mr. Hamilton: If he knows.

Mr. West: Every question I ask, Mr. Hamilton, is if he knows.

(23) Mr. Hamilton: I object because there is no indication in the record that he knows, or has any basis for making that kind of a judgment.

Mr. West: If he knows he will answer it, if he doesn't know, he won't.

A. It was about forty million pounds—I got stuck up on a word.

Q. Would it be easier to write it? A. —annually. That is in 1967 (writing on pad).

Q. Take a look at that again and tell me if that is what you mean. A. Fourteen million. There it comes.

Mr. West: Can we agree that that is what Mr. Publow wrote?

Mr. Hamilton: Yes.

A. It was around that.

Mr. West: I don't think we need mark it since you managed to get it out.

Q. You had some problem saying the words "fourteen million." A. Yes. I often get hung up on a word or two.

Q. Is that a recent development? A. Yes.

Q. Can you tell me what caused that? (24) A. A stroke.

Q. Approximately when did you suffer that stroke? A. It would be now eight weeks that I started.

Q. Are you pretty well recovered now? A. Yes.

* * *

(29) Q. Did you have any discussions with Mr. O'Malley with respect to the total aluminum requirements under the Amax and Alcoa agreement? A. Yes.

Q. What was the subject of those discussions? A. I didn't see where we could use all the aluminum that we were contracted for.

Q. Did you say that to Mr. O'Malley? A. Yes.

Q. What did Mr. O'Malley say to you? (30) A. He said to me that for me not to worry about that. He would see whether we could consume that much aluminum or not.

* * *

(33) Q. Will you answer that, Mr. Publow? A. Yes. Alcoa.

Q. Why was the Alcoa better?

Mr. Hamilton: I will object to the whole line on the same grounds.

A. Because freight cost from Bellingham were so high.

Q. I show you what has previously been marked as Plaintiff's Exhibit 9 for identification, and I draw your attention specifically to the last page. Have you ever seen this document before? A. Yes, I have.

Q. Do you know who prepared it? A. I can't remember exactly how it was prepared, but it was one we all worked on.

Q. Did you contribute? A. Yes, I contributed to it. I think Dunstan actually put it together, but I am not sure of that, either.

Q. It is signed on the page that is numbered 5 by Tom Seifert? A. Yes.

Q. Does that refresh your recollection that he might have put it together? A. He might have, but he had to get the figures from all of us to do it.

(34) Q. It is dated 10/27/67. Does that refresh your recollection that it might have been prepared at or about that time? A. Yes, I would say so. This was prepared before we settled—made a deal with Alcoa.

Q. Directing your attention specifically to the last page, the bottom line before the footnotes which read "Total cost beyond 1968 for rod," on my copy per pound is written on. Is that on the original? A. It is right, though.

Q. Can you tell me the numbers under the heading "Amax, Alcoa and Conalco representative"? A. These are prices per pound, delivered to Paducah, Kentucky. 26.08 cents per pound.

Q. Is the price to Essex? A. 26.08 per pound, the price to Essex delivered, at Paducah, of rod.

Q. Of rod produced under the Amax agreement? A. Right.

Q. Is there a corresponding figure on here for the price to Essex for rod produced under the Alcoa agreement? A. .2393.

Q. Is that also cents per pound? (35) A. Cents per pound delivered.

Q. Can you tell me basically what causes the difference in the total price between the Amax and the Alcoa prices per pound? A. The biggest thing is the freight difference. Cost of freight .0148 for Amax and .0026 for Alcoa. The difference of a penny and a quarter a pound.

Q. Did you have any discussion with Mr. O'Malley prior to executing the Alcoa agreement with respect to this difference in price per pound between the Amax and Alcoa agreements? A. Yes.

Q. What did you say to him and what did he say to you? A. The only difference really in them was the freight.

Q. Who said that? A. Fundamentally, I told O'Malley that. The only difference—if he was going to do anything with Alcoa, he should have had a better price than what he got, and we went out and negotiated the price with Alcoa in Pittsburgh.

Q. Is that what you told Mr. O'Malley? A. Yes. Charlie Kilburn and I went out there to negotiate the price.

(36) Q. What did Mr. O'Malley say, if anything, to you when you told him that the price per pound under the Alcoa agreement was less than the price per pound under the Amax agreement? A. Obviously he didn't want to buy any more from Amax than he had to.

Q. Did he say that to you?

Mr. Hamilton: I object and move to strike.

A. Yes.

Q. What did he say, in substance? A. I already told you he began by telling me that he could sell the Properzi in Intalco to Amax. That was already installed in Intalco.

Q. Did he tell you that that was in addition to purchasing aluminum from Amax?

Mr. Hamilton: Objection.

A. No, he didn't say anything about that.

* * *

(72) Q. Did there come a time when you were relieved of your responsibilities— A. Shortly before I left the company.

Q. Let me finish my question, Mr. Publow. Did there come a time when you were relieved of all your responsibilities with respect to the Intalco operation? A. Yes.

Q. Would you tell me when that was? A. I would have to say it was around in April 1968.

Q. April of 1968? A. Yes, I think so.

Q. Your memory is a little fuzzy in that regard, Mr. Publow. A. I can get some dates for you, if that is what you want.

Q. Could it be as early as December of 1967? A. No.

Q. Not a chance? A. Not a chance.

Q. January of 1968? A. No.

Q. Out of the question? (73) A. Out of the question.

Q. Did you know that I have taken the deposition of Mr. Dunstan in this case? A. Yes.

Q. How do you know that? A. Somebody mentioned it when I first came in here.

Q. On July 16, 1970, Mr. Publow, in Charlottesville, Virginia, I asked the following questions of Mr. Dunstan and he gave the following answers, on Page 4, starting with Line 20 of the transcript:

"Q. Now, what relationship, if any, did Mr. Publow have to the operation in Bellingham, Washington? A. Because the biggest user of aluminum was going to be this new division, and since the Bellingham operation was an aluminum manufacturing operation, he was involved in getting it started even though a specific assignment of the plant in one of the three divisions that used aluminum had not been made. So he was, since his division was the biggest user, he had the most stake in it and he was heading the project up for the cor[illegible]ion.

"Q. And how long did he head the project up for Essex? (74) A. I would say from about July until December of 1967.

Deposition of Richard H. Publow

"Q. Now, what happened in December of 1967 insofar as Mr. Publow's relationship to the Bellingham operation is concerned? A. There were too many problems in his division and Mr. O'Malley decided that the Bellingham operation should come back under the control of my operations. And so at that point in time, it was either in late December or early January that Charlie Kilburn reported definitely to me."

Q. Do you think Mr. Dunstan was inaccurate in that testimony? A. I will tell you what he was thinking of. When you started with the Alcoa contract and in Evansville, then Mr. Dunstan oversaw all of that. Charlie Kilburn did that work, too.

Q. You think Mr. Dunstan was testifying about the Alcoa contract in that passage I read, Mr. Publow? A. It is the only thing he had charge of until shortly before I left the company, as far as Bellingham is concerned.

Q. Now, yet me show you a copy of Defendant's Exhibit 91 for identification, Mr. Publow, which is a (75) memorandum from Mr. Kaufmann of Amax, directed to Mr. Furbacher of Amax, dated January 15, 1968, and in that memorandum, under Subdivision A, which says, "Where we go on the Properzi," Mr. Kaufmann made the following statement, "shifting from Dick Publow to Jim Dunstan at Essex has cleared the air considerably."

Now, Mr. Publow, how is your memory now on when you were relieved of your responsibilities with respect to the Intalco operation?

Mr. West: I object to the form of the question.

Q. Does that refresh your recollection, Mr. Publow, that you were relieved of your responsibilities sometime early in January or possibly earlier? A. No.

Q. Kaufmann is probably talking about the same Alcoa contract, would you say?

Deposition of Richard H. Publow

Mr. West: I object to the form of the question.

A. I don't know. I have no way of knowing what Kaufmann was talking about.

* * *

(77) Q. You testified, Mr. Publow, about a meeting prior to the signing of the Amax contract in which you and Mr. Dunstan and Mr. O'Malley discussed the relative merits of Alcoa and Conalco. Do you recall that meeting? A. Yes.

Q. Would you tell me again what position you took at that meeting. A. I always took the position that Conalco was the better deal for us on rod.

Q. Would you tell us the position that Mr. Dunstan took at that meeting, to the best of your recollection? A. To the best of my recollection, against Alcoa and (78) Conalco. Is that what you said?

Q. No, I am talking about a meeting, Mr. Publow, prior to the signing of the Amax contract. A. Dunstan didn't like the Amax contract either, but I don't think he particularly bought Conalco's, because of the investment involved.

Q. Were you recommending the Conalco contract? A. Yes, I was.

Q. Did Mr. O'Malley tell you the reasons why he preferred the Amax arrangements? A. Yes, he did.

Q. What were those reasons? A. The investment involved, which, as I recall it, was starting out at half a million dollars in pot lines.

Q. Essex was going to invest half a million dollars in a pot line? A. And get aluminum at the Properzi for seventeen and a half cents a pound.

Q. Did Mr. O'Malley give you any other reasons as to why he preferred the Amax arrangement over Conalco? A. Initially it was a twenty-year agreement on the pot line, in which you would have to get your investment back.

Deposition of Richard H. Publow

Q. Was it your understanding that Mr. O'Malley had an arrangement whereby Essex had a twenty-year (79) investment in a pot line? A. At least a twenty-year. That was the initial investment, the initial length was twenty years.

Q. Did Mr. O'Malley give you any other reasons as to why he preferred Amax? A. Other than Conalco, it was the best deal he could make at the time.

Q. Did he convince you that these reasons made the Amax deal better than Conalco? A. No.

Q. Was this the first time that you can ever recall having a disagreement with Mr. O'Malley? A. No. No. We had them more often than once.

Q. And Mr. O'Malley was the chief executive officer, was he not? A. Yes.

* * *

(83) Q. Was Mr. O'Malley in the habit of confiding in you, Mr. Publow, as to how he was going to utilize aluminum or any other metal that he purchased?

Mr. West: I object to the question.

Q. Will you answer that please. A. Sure. He had to confide in me for the material that I was going to use.

Q. Did he confide in you in any other places that he might utilize material that he had on order?

Mr. West: I object to the question.

A. Not necessarily. Things that were going into my division, he did.

Q. But there were other divisions in the company that utilized aluminum? A. Yes.

Q. Isn't it a fair statement that there was an (84) acquisition or two taking place in the 1967-1968 period? A. Yes.

Q. Some of those acquisitions involved the use of aluminum, isn't that correct? A. Yes.

Q. Were you up to date on the needs that those acquired companies might have for aluminum? A. Not at all.

Q. The only person who would be up to date is Mr. O'Malley?

Mr. West: Thornton would have been.

Q. Thornton also? A. Yes.

Q. Anybody else? A. No, I don't think so.

Q. Isn't it fair to say that on occasion Mr. O'Malley told you that the disposition of aluminum was his problem and not yours?

Mr. West: I object to the form of the question.

A. Yes, he would often tell me that.

* * *

(86) Q. Tell me how many of them as you can recall on the subject of disposition of aluminum following the signing of the Alcoa contract. A. Well, we had frequent ones on taking rod from Alcoa, we even bought rod from Nichols because we weren't getting the rod from Intalco. So we were running short of rod for a short time. But the Alcoa contract made up for much of the rod that Intalco was not shipping, so we had frequent discussions on this subject.

* * *

(88) Q. Do you recall any other disagreements that resulted in your leaving Essex? A. We had personal disagreements, if that is what you mean.

Q. Precisely. Tell me what those were, please. A. You mean my disagreements with Dunstan?

Q. Any disagreements that you are referring to, Mr. Publow, as reasons why you had occasion to leave Essex in 1968. (89) A. I was fired, if that is what you mean.

Q. It is the fact that you were fired? A. Sure.

Q. Isn't it a fact that you had a serious health problem in the first six months of 1968, and perhaps earlier than that? A. Maybe.

Q. I didn't want to cut you off, Mr. Publow, but I am going to ask my question. Have you finished your answer? A. Yes.

Q. Isn't it a fact that in the first six months of 1968 you had an alcohol problem that you could not control? A. Maybe.

Q. That is true, is it not? A. I don't know.

Q. You don't recall? A. I know a lot of people said so.

Q. Your own recollection of it is fuzzy? A. No.

Q. Isn't it a fact, Mr. Publow, that there were periods of several days at a time during early 1968 when you were away from the job without explanation to anyone (90) at Essex? A. My secretary always knew where I was.

Q. Was she willing to divulge that information to anyone else? A. Presumably.

Q. Isn't it a fact, Mr. Publow, that on several occasions during the first six months of 1968 you were incapable of carrying out your responsibilities at Essex because of that alcohol problem? A. No.

Q. You deny that? A. Yes.

Q. Isn't it a fact that this was a prime reason given to you as to why you were being terminated at Essex? A. By Dunstan, not by O'Malley.

Q. I beg your pardon? A. I said not by O'Malley.

Q. But Mr. Dunstan was the man you reported to, isn't that correct? A. At that time.

Q. He is the man who terminated you, is that correct? A. That's correct.

* * *

Deposition of James M. Morris

(3) JAMES M. MORRIS, called as a witness on behalf of the defendant, being first duly sworn, was examined and testified as follows:

* * *

Q. Would you please give us your full name and your home address for the record? A. James M. Morris, Box 835 Crane Road, St. Charles, Rural Route 3.

Q. What is your current position at Nichols, Mr. Morris? A. President.

Q. How long have you been President? A. August of '63.

Q. Were you with the Nichols Company prior to that time? A. Yes.

Q. In what capacity? A. Executive Vice-President.

Q. For how long? A. I don't remember.

Q. Was it prior to 1950? A. No, no.

Q. When did you first come to Nichols? A. September 1st, 1953.

Q. What is your educational background? A. Bachelor of Science and Metallurgy, Lehigh University.

* * *

(5) Q. How long has Nichols Aluminum Company represented Properzi in the United States? A. I'd have to go back in the file. Somewhere between '48 and '50.

* * *

(7) Q. What is the essential difference between a Model 8 Properzi and a Model 7 Properzi? A. The rolling mill is a complete redesign as far as the gear drive, the power train from the motor to the rolling heads. The rolling heads are larger. The transfer system of the (8) bar from the casting wheel is conveyorized. Emulsion and lubrication systems are different. The casting wheel is different. The casting sheen is different design, application of the metal to the groove and the number of idler wheels as well as the cross section of the groove.

Q. Are the differences between the Model 8 Properzi and the Model 7 Properzi more pronounced than the differences between the earlier model in succession? A. It is a complete redesign to the metal. As far as the casting was concerned, there was an additional idler wheel introduced.

Q. Which of these changes that you have elaborated on is responsible for the increased capacity of the Model 8 over the Model 7? A. The size of the groove and the amount of mill to roll a larger section.

Q. Did the earlier models have seventeen stands in them? A. The No. 7 had seventeen stands.

Q. So that was not a change? A. The size of the stands was a change, not the number.

* * *

(11) Q. This Properzi at Ferndale was delivered or it arrived in the fall of 1968—I'm sorry, the fall of 1967? A. Fall of 1967.

Q. Approximately nine months after it had originally been promised, is that correct? A. I would say you have established that fact.

Q. Is nine months an inordinate or an unusual delay in your experience on Properzis? A. That is an inordinate delay.

Q. Can you give me an approximation of— A. In defense, could I comment on my previous—

Q. Go ahead. A. In defense of Mr. Properzi, this was the initial design of this equipment of the Model 8. I believe he had some design work to refine prior to the delivery to getting the equipment in production. I don't think it was a production problem as much as it was a design problem. There were electrics that were getting to be more complicated because of the rod speed in the mill. We were coordinating it with a coiler at the time.

That took some coordination of design and electrical affairs. It was a very complex problem, and in defense of Mr. Properzi I think he had some problems in this area (12) that became larger than he realized.

Q. Design problems that were larger? A. Design problems that were larger than he realized.

Q. Can you elaborate further on the design problems that you now know with the benefit of hindsight that were larger than anticipated, say, back in early 1967? A. There is a much larger base that had to be casted at a foundry, I believe, and—this is again from memory—that they lost one of the first castings, and it takes about thirty days to make the mold for the casting, as I understand it—something to this nature. I think these were some of the problems. Again, this is largely hearsay. I wasn't there. They had to purchase outside electrics and an outside coolant system that he did not manufacture himself. I would say these would probably be the largest areas. Also, he changed the entry of the metal into the mold, and he did some casting in his own operation on that and wheel design. This was a larger groove. I believe a spray system is somewhat different than he previously had. All of these factors were involved. What made me believe it was design problems too, it was that the first three came in a bunch.

Q. You mean the Essex one, the General Cable one and the Alcoa one? A. Yeah, the first three came together.

* * *

(15) Q. Just say that. That will be fine. What is the purpose of secondary cooling? What is it intended to achieve? A. To open the mold to introduce water on the bar to get faster cooling.

(16) Q. That would increase the output of that machine, wouldn't it? A. Correct.

* * *

(44) Q. All of these documents, Mr. Morris, relate to the delay in shipment that Essex was experiencing in connection (45) with the Properzi. In your history at Nichols, have you ever had a problem on delays that was as serious as the one you had here with Essex? A. I think we'd have to document that in the file.

Q. Can you recall any just based upon present recollection? A. I can't think back from the top of my head that would necessarily be that way. I can check the file.

Q. Do you ever recall receiving a letter comparable to 181 from anyone other than Essex?

Mr. Finer: Excuse me, Mr. Hamilton, may I ask for a minute to break?

Mr. Hamilton: Sure.

(A short discussion was had off the record.)

A. On the record again, you are talking about 118, correct?

Q. Yes, sir; Exhibit 118. A. To the best of my recollection, I had, you might say, similar letters and phone calls to that extent from both Alcoa and General Cable on delivery.

Q. But their deliveries of course were at least a month or two subsequent to the promised delivery for Essex, isn't that correct? A. I am not trying to be evasive in this. They all came about the same time. I think there was something in one of those letters about what the delivery was. Can you refresh my memory?

(46) Q. If you will look at Exhibit 201— A. Yeah, that is right. Can we take Exhibit 201, plus that—

Q. 118? A. 118 and 247. I believe on 201 and 247 show the relative dates of the three machines.

Q. But the original shipping date for Alcoa was May, '67; for Essex it was March of '67; and General Cable was June in '67? A. Correct.

Deposition of James M. Morris

Q. But your recollection is that both Alcoa and General Cable were also complaining bitterly, is that fair? A. I would say, yes.

* * *

(51) Q. From your personal diary, Mr. Morris, can you tell me whether or not there were any additional visits by Intalco people that aren't reflected in Exhibits 257, 258 and 259? A. No. Here is a list of ones I dug out yesterday if you want to look at them.

Q. Your diary indicates that on August 15, 1967 Mr. MacDonald of Intalco was present here in Davenport? A. Yeah.

Q. That is the only other reference you have to people from Intalco who were here, isn't that correct? A. That is right. That is the only thing I can find in these.

Mr. Finer: May I see the Exhibits 257 to 259?

Q. Exhibit 260, Mr. Morris, is a letter dated January 16, 1968 from yourself to Mr. Kilburn. What was the role of Nichols Aluminum Company in connection with the installation of the OTT coiler? A. In this particular case, we were OTT's agent.

Q. You say "in this particular case." I presume you do not have the general relationship with OTT that you do have with Properzi? A. We don't have the extent of territory.

Q. You do represent OTT though in— A. In the United States.

(52) Q. In the United States? A. In the United States.

Q. So Mr. Fox went out to Ferndale to give technical advice on the installation? A. Correct.

Q. Would he have had anybody else with him from OTT? A. Yes, he would have a representative of OTT.

Deposition of James M. Morris

Q. How long have you been OTT's representative in the United States, approximately? A. '64 or '65. I can find out specifically if you want.

* * *

(83) Q. Did Mr. Kilburn of Essex, to your knowledge, make any significant modifications without clearing it with Nichols—with yourself and Mr. Raiford? A. To my knowledge, no. All the work Mr. Kilburn did was, to my knowledge, in conjunction with Mr. Raiford. In other words, he was very cooperative and did everything that we asked him to do, and I don't recall him going off on a tangent without discussing it with us.

Q. Was there any difference of opinion as to possible modifications of the machine—a difference of opinion between Kilburn and the Nichols people? A. I don't know of any if there was.

* * *

(86) Q. Would you look at the second to the last paragraph of Plaintiff's Exhibit No. 3 on the last page? The letter states—a letter from Mr. Kilburn to yourself states—that one reason for the delay was certain problems in a secondary cooling system. Could you tell us what those problems were? A. Primarily that it didn't work.

Q. Were the problems solved to the satisfaction of both (87) parties—of Continuus, Nichols, and Essex? A. The secondary cooling never was operable.

Q. It never was operable. Did the failure of that, of the secondary cooling system to operate, affect the performance, affect the capability of the Properzi to perform? A. I don't know what production we could have gotten with the secondary cooling, so I can't tell you.

Q. Might it have been a factor in limiting the production or output of the Properzi? A. We may have gotten more production with it, I don't know, because it never operated.

Q. Is there any Properzi No. 8 operating up to specifications which does not have a secondary cooling system? A. There are no secondary cooling systems operating.

Q. All the Properzis are operating without? A. All of them are operating at the 14,000 pounds or better rate without secondary cooling.

Q. Let me ask you the same question I asked— A I say all. I would like to correct that. I haven't been down to Booneville. I can't comment on that.

Q. Was the Intalco No. 8 Properzi the first one that was sold? A. Yes.

Q. Was it the first one that was manufactured? A. To my knowledge, yes.

(88) Q. Would you call it a prototype? A. What is the definition of "prototype"?

Q. It is the first unit of a product which forms the basis for further development and perfection of a product. A. The No. 8 sold to Essex was the first No. 8 unit produced and sold in this country. I don't know what Properzi had done in other countries that we are familiar with.

Q. Would it be normal to expect a greater number of defects or bugs in the first unit produced of a product than you would find in subsequent units that were produced? A. Do you want my opinion?

Q. Yes. A. On the first thing of anything made, I would assume that that would be the case. I don't know how you could argue.

Q. Could you state to the best of your recollection what defects or problems developed with this Properzi, the one at Intalco, that were ironed out or solved by the time later Properzis were produced? A. There were two major defects. If you want to use the word "defects"– two major problem areas. One was the design of the mold and the other one was the spout design—the spout material.

Q. Is it not true-- A. Both problems were fluential factors on the life of those two particular elements. Both

of them, as originally (89) delivered, would work, but in our estimation, their production life was not satisfactory.

Q. Would you say that the angle of the casting wheel on the Intalco Properzi might have contributed to its failure to produce up to specifications? A. No. In my opinion, what concerned me about the angle of the casting wheel should they have gone to a 6201, which is an alloy, it may have produced problems with 6201. This was my concern. They never produced that alloy. They never tried to.

Q. As with the metal that was used at Intalco, you are suggesting that the angle did not create any problems? A. No, I don't think it did. The major factor—

Q. Isn't it true that on Properzis produced subsequent to the Intalco Properzi, the blueprints, installation plans provided for an angle that was less than the one of that at Intalco? A. Yes.

Q. What was the reason for that change? A. 6201 had become prominent in the United States. It was our feeling that to produce a hard alloy of this nature, the twenty-five degrees was excessive, and that a bar would not bend and move like an EC bar, and it would be imperative to have it closer to a tangent to the path line than twenty-five degrees.

* * *

(92) Q. So what response if any did Essex make to this proposal, the one of February 23, 1968? A. It is my understanding—can I go off the record? It is my understanding from Raiford—and you gentlemen can check with him later if you so desire—that they did not like the price that was on this for one thing under Paragraph X, Sub. A, we said we would do 14,000 pounds per hour. They said that this was too much money. This is what necessitated the second offer which was built around 12,600 pounds an hour which, it is my understanding, was the rate it was supposed to produce in the agreement between AMAX and Essex. I don't know. I have never seen that agreement.

Q. Did Essex then make a counter offer fo'lowing—I am not asking you for a legal interpretation of what a counter offer is—but did Essex suggest another arrangement for a start-up? A. They suggested a 12,600 pounds per hour arrangement. (93) Essentially, to my understanding, that is why we prepared it and presented it.

Q. So who had Essex suggested this 12,600 pounds to? A. I think that came back through Mr. Kilburn to Mr. Raiford.

Q. Then when Nichols agreed to this by his letter of May 2nd, 1968, is it accurate to say that Essex backed out of that deal? A. Well, I can't say backed out because it was never a deal. It was never culminated.

Q. But your proposal of May 2nd, '68 was in response to an offer from Essex? A. A request, not an offer.

Q. All right, a request. Did your proposal differ in any way from the arrangement that was requested by Essex? A. Essentially, no. In general terms, no. I think it was as close as our conversations had left us when we presented it.

Q. Were you surprised to learn that Essex would not go along with this offer? A. That they didn't go—I would say I was more disappointed than surprised.

Q. Essex's response to this offer was made through Mr. Dunstan orally, was that the original response? A. No, the response as I recall was through—it was turned down first—was through Mr. Kilburn to Mr. Raiford I (94) believe, or possibly at the time, Mr. Murphy. I don't know. They were working with him closer than I was on this particular item.

Q. Did Mr. Kilburn advance reasons to Mr. Murphy or to Mr. Raiford as to why Essex was rejecting this? A. I don't recall on that.

Q. Did anyone from Essex ever indicate to you why this proposal was being rejected? A. I will go back again to my earlier statement. On this May 2nd proposal that later

in our conversation between Mr. Dunstan, he advised me that they did not take it because they were not going to spend any more money on the equipment.

Q. Did you ever reply to Essex that it was being unreasonable in rejecting your offer? A. No, I never said they were being unreasonable.

Q. Looking at Defendant's Exhibit 277, in particular, the last sentence of the second paragraph, does that affect your testimony as to whether or not you ever implied Essex was being unreasonable? Isn't that a fair inference to be drawn from that instrument?

> Mr. Hamilton: The document speaks for itself, Mr. Finer. You can draw any inference you want to from it. I object to the question on the grounds of form. You may speculate if you will, Mr. Morris.

(95) A. I feel that it says what it says and that that is—we cannot, by merely acting as an agent, transmit messages, practically resolve any dispute, and if this is asking for a face-to-face confrontation where answers can be given back and forth and decisions made rather than long haul, that is what we mean by that. I think that is what it says.

Q. You are referring to the last sentence of the second paragraph? A. Oh, I was reading down at the bottom.

Q. My question was in reference to the last sentence of the second paragraph. A. I think that is pretty clear-cut.

Q. Did you intend by that sentence to indicate that in your view, Essex was being unreasonable in rejecting the proposal? A. We felt they should have accepted our proposal there. I don't know if you can read unreasonable into it or not.

Q. Did you ever make a proposal as generous to any other persons of a Properzi? A. We never made an offer, as I testified earlier, of this nature to anybody else. We

were talking about it now. What form of it at that time, I don't know.

Q. At the time you made this May 2nd proposal, is it not fair to state that you were so concerned about the (96) reputation of your machine that you were willing to guarantee that you could put it into operation and that if you failed to put it into operation, your services would be at no expense to Essex? A. Except $2,500.

Q. Except $2,500. What motivated you then to go from your offer of February 23, 1968 where Essex would have to pay $60,000 to your offer of May 2nd, 1968 where Essex would only have to pay $2,500 if the machine was not put into operation up to specifications? A. Well, one of the reasons in the difference of price was 14,000 pounds per hour to 12,600 pounds per hour on that machine. That is a lot of effort.

Q. The letter of May 2nd, 1968 from you to Mr. Dunstan, as I read it, doesn't include any hourly rate. It doesn't specify any hourly rate. Do you have it there? A. No, I don't. It is my opinion that 12,600 pounds per hour was in there.

Mr. Hamilton: Which one are you talking about?

Q. You are talking about the May 2nd proposal, right? A. Yeah, yeah, 12,600 pounds per hour. In answer to the rest of your question, that was one part of it, and the answer to the rest of your question: Yes, we were concerned of having Essex in this position and having our equipment not operating. We don't deny this. These (97) two things were our primary motivation.

Q. In making the proposal of May 2nd, 1968, what did Nichols intend to do if Essex had accepted the offer that would bring the Properzi up to 12,600 pounds an hour that wasn't already being done at Intalco? A. Again, Mr. Finer, that is my problem. I didn't know what was being

done at Intalco and what the problems were, but I do believe that our people knew how to operate this equipment and knew what to do to make it get 12,600 pounds per hour, knew the proper steps, and the proper training if it was necessary. But the identity of the problems and the control of the variables as Mr. Raiford referred to them and would see that this was done, and if it wasn't done, then make it a matter of record that it wasn't being done and let the chips fall where they may. That was our approach.

Q. Do you have an opinion based on personal knowledge as to where the fault lay or the failure of the Properzi at Intalco? A. As I say, that was the reason behind our offering of this service, to get out there and to establish where the problems were. There were three people involved in this thing—AMAX, Intalco, and Properzi and ourselves as Properzi's agent, and I wanted to establish where the problem lay and then fix it. That was the whole motivation behind (98) that procedure—procedure behind that.

Q. Is it correct to say that you would not testify that in your opinion the failure was the fault of Intalco, of the persons of the Intalco management or crew? A. I might say I could have suspicions, but I have no opinion because I have no facts to base opinion on. That is my problem.

Q. All right. I will ask you to look at Defendant's Exhibit No. 267. Prior to receiving this letter, had anyone at Nichols received any complaints about the Properzi from anyone at Essex? A. I don't know your definition of complaints, but I think the file substantiates that there was considerable.

Q. Were there any oral complaints that would be found in the file? A. Obviously, there were telephone conversations that were documented.

Q. What was the nature of these complaints and telephone calls? A. It started with—I can't recall specifically

—I would imagine they would be dealing with everything that has been documented up to here.

Q. Did anyone at Essex ever assert to anyone at Nichols, to your knowledge, that the failure of the Properzi was due in any way to the attitude or performance of the (99) Intalco personnel?

Mr. Hamilton: May I have that read back please?

(The pending question was read by the Reporter.)

A. Not to me directly.

Q. Do you know by hearsay whether anyone at Essex made such a statement to anyone else at Nichols other than yourself? A. I heard some conversation yesterday about C. K. Li being transferred or something.

Q. Yesterday? A. In Mr. Raiford's testimony, I believe that was there. Have to refresh my memory.

Q. You don't have anything further to contribute from your own? A. No, I wasn't in on it. I just heard it.

* * *

(104) Q. Now I think you testified just a few minutes ago, Mr. Morris, that you had never made the offer of May 2, 1968 for services to any person or any prospective customer other than Essex; is that correct? A. To my knowledge, that is correct.

Q. Isn't it true that you made that identical offer to AMAX?

Mr. Finer: AMAX wasn't a purchaser.

Q. Whether a purchaser or not, you did make the offer? A. Subsequently, I think he asked that question up at that time, whoever made that offer, and I said, "No, that was the first offer."

Q. A couple weeks later, you did make the offer to AMAX, isn't that right? A. Yes (Indicating).

* * *

Deposition of Paul K. Raiford

(3) PAUL K. RAIFORD, called as a witness on behalf of the defendant, being first duly sworn, was examined and testified as follows:

* * *

Q. Would you give us your full name and home address, Mr. Raiford, for the record please? A. Paul K. Raiford, 4420 Squire Court, Bettendorf, Iowa.

Q. By whom are you currently employed? A. Nichols-Homeshield, Incorporated.

Q. What is your position? A. Vice-President, Manufacturing.

Q. When were you first employed by Nichols? A. September the 11th, 1967.

Q. What was your first position there? A. Production Superintendent, Davenport plant.

Q. In general terms, what were your duties in that position? A. Responsible for the production facilities in the production of sheet, rod wire, fabricated aluminum products.

Q. What kind of equipment in general terms did you have at that plant? A. Properzi casting unit for continuing casting for redraw rod; Hunter casting unit for the continuous production of rerolled sheet, sheet rolling mill, and wire drawing equipment; nail fabrication production equipment; various (4) sheet roll farming equipment, and chain-link fence-weaving machine. In general, that is the production equipment.

Q. Was that No. 6 Properzi? A. No, a Model 7 Properzi.

Q. How long did you remain Production Superintendent? A. Approximately six months.

Q. That would be then approximately March of 1968? A. Approximately March, 1968.

Q. What position did you take at that time? A. Plant Manager, Davenport plant.

Deposition of Paul K. Raiford

Q. Who had been Plant Manager prior to your assumption of that position? A. It was vacant.

Q. How did your duties as Plant Manager differ from your duties as Production Superintendent? A. As Plant Manager, I saw more of the functions. For example, engineering, maintenance, quality control, technical.

Q. Anything else different really? A. No.

Q. Who did you report to as Plant Manager? A. I reported to a Mr. Jerry Murphy who was Vice-President of Manufacturing.

Q. Who had you reported to as the Production Superintendent? (5) A. Same gentleman.

Q. How long did you remain Plant Manager? A. Until September of '68.

Q. What position did you assume at that point? A. Vice-President of Manufacturing.

Q. That is your current position? A. Yes.

Q. What are your duties, in general terms, as Vice-President of Manufacturing? A. Responsible for the two plants that we have under the merged company, the Davenport plant and the plant in Chatsworth, Illinois, both of which are manufacturing plants.

Q. How does the plant in Illinois differ in terms of its facilities and products? A. It is basically a plant producing semifabricated and fabricated products of a sheet, aluminum sheet, nature comprised basically of sheet painting facilities, roll farming, facilities for the production of shapes, and then the assembly of those shapes into products of screens, patio components, doors, etc.

Q. Does it have any casting facilities there? A. No.

Q. Who did you report to as Vice-President, Manufacturing? A. James Morris, President of Nichols-Homeshield, Inc.

* * *

(16) Q. What happened, Mr. Raiford, when you went to Ferndale in your first visit, November 27 to December 1, 1967? What did you do? A. Specifically, you are asking me what did I do. Gee, that is—better refresh my memory there.

Q. That is too broad, Mr. Raiford. Was there any specific problem that had occurred at Ferndale to which you were requested to direct your attention? A. If my memory is right, I think the initial visit was more or less one of a general nature of reviewing the overall operation, conversing with Mr. Kilburn related to equipment, operational problems, concerned with any assistance that we as representatives of the manufacturer might give Mr. Kilburn. I specifically cannot recall what I did and who I talked to and so on.

Q. Can you recall whether or not you met Intalco representatives or employees on this first trip? A. I am sure I did meet at the time possible Mr. Macdonald, Mr. Li, and others whom I do not recall.

Q. Do you know whether you met Mr. Ferrie on this first visit? A. I can't say positively I did or I didn't.

Q. Do you have any specific recollection of meeting Mr. Briggs on this first visit? (17) A. Possibly I did; possibly I didn't. I just don't recall.

Q. Do you recall whether or not a meeting took place—a general meeting took place—while you were there that was attended by the persons that I have just mentioned? A. As far as I recall, no, not the first trip.

Q. What operational problems if any did you observe on the occasion of this first trip? A. The first trip was something like three weeks after the initial start-up, and the operational problems were related to equipment, training, and experience of crews, people, which after three weeks is not unusual.

Q. What equipment problems were they experiencing at that time, Mr. Raiford? A. Primarily related to the copper casting ring mold.

Q. Would you describe for me the problem that you observed on this occasion that related to the copper ring mold? A. They had previously experienced one or two mold failures which were related to the nature of the design plus or aggravated by operational inexperience.

Q. Do you recall any other equipment difficulties that were being experienced at that time? A. Of a major nature, no.

Q. Of a minor nature then, Mr. Raiford? A. Of a minor nature, it was related to the molten metal pouring spout into the casting ring mold.

(18) Q. Would you describe for me in layman's terms, if you can, the problem they were having in connection with the molten metal pouring spout? A. At that particular time, it was primarily comprised of premature failure as a result of erosion of the spout by the molten metal.

Q. Over and above the ring mold and the pouring spout, Mr. Raiford, do your recall observing any other equipment difficulties that the Ferndale operation was experiencing on the occasion of this first visit? A. Nothing that was not related to or would not be expected in getting a new operation underway.

Q. Did you make any recommendations as to how the ring mold or the pouring spout problems might be rectified? A. At that particular time, no.

Q. But at some later time, you did; is that correct? A. At some later time, yes; we did.

Q. How much later? A. Oh, approximately February.

Q. What recommendations did you make in approximately February along these lines? A. The recommendation in February was related to the obtainment of a redesigned mold and different materials for the pouring spout.

Q. Is the ring mold, Mr. Raiford, that indented edge of a (19) large wheel? Am I describing the proper piece of equipment? A. Yes, it is a copper ring mounted between steel plates, and it has a cavity which, when encompassed by the steel belt, comprises the casting mold.

Q. That steel belt is not part of the mold then? A. It is a part of the mold as a component which completes the mold proper.

Q. At the occasion of your first visit to Ferndale, were they experiencing problems with that steel belt as well as with the copper ring mold itself and the pouring spout? A. No, nothing unusual with the belt.

Q. It was functioning properly? A. Yes.

Q. Is it fair to say, Mr. Raiford, that the ring mold as supplied by the manufacturer initially was inadequte or defective? A. It had some limitations, and when coupled with the inexperience of operations during the start-up phase, resulted in some problems.

Q. General Cable had problems with the ring mold too, isn't that a fair statement, Mr. Raiford? A. Yes.

Q. Everybody did until you corrected the engineering of it back in February, isn't that right? (20) A. Yes.

Q. What about the pouring spout, Mr. Raiford? Is it fair to also say that that was an engineering defect or inadequacy as far as—at least in November or December of 1967? A. The inadequacies of the pouring spout related to length of the casting run, not to the inability of producing a quality casting.

Q. But the pouring spout would just fail after a relatively short period of time, isn't that right? A. Yes.

Q. What was the change that was made in the pouring spout that rectified that situation? A. A change in material from steel to ceramic.

Q. Upon whose recommendation was that change made? A. I don't recall at the time whether it was a recommenda-

tion of ours or it was a recommendation of the manufacturer of that type spout.

Q. The manufacturer of a spout I assume was not the Continuus Company? A. No.

Q. But your recollection is that you suggested that this spout be changed to the ceramic material in about February of '68? A. Approximately February—January or February, somewhere in that period.

* * *

(27) Q. Do you make any recommendations to your Properzi customers concerning the crew that is to operate the Properzi? A. Yes, we have and still do.

Q. What kind of recommendation do you make? A. Depends upon the size of the unit and the necessity to have the desirable number of people to operate the unit.

Q. What recommendations do you make as to crew on a Model 8 Properzi? A. Normally, we recommend five operators.

Q. Can you differentiate between those operators in terms of (28) function? A. Normally, a crew is comprised of a lead operator, a casting wheel operator, a furnace operator, and two people who service the boiler and generally assist in furnace caster mill operation.

Q. Which of these people perform maintenance and repair functions if any? A. That customarily is a separate function.

Q. So these five people are the ones that operate the machine itself? A. Correct.

Q. Do you make any recommendations to your Model 8 customers as to the need for an experienced crew? A. Obviously, an experienced crew is desirable, but in most cases, has to be trained on the job.

Q. Is it fair to say that the start-up time is likely to be less if you have a start-up crew? A. That is a fair statement. I don't think you could disagree with that statement.

Q. Let me ask you this then, Mr. Raiford: When did General Cable install its Properzi—its first Properzi?

Mr. Morris: You mean their first No. 8?

Mr. Hamilton: Right.

A. If my memory is correct, I think it was around the end of November, first part of December of '67.

(29) Q. Very close to when the Ferndale operation commenced? A. Shortly thereafterward.

Q. Do you recall how long it was before General Cable had their Model 8 Properzi producing at a rate of ten to twelve thousand pounds—what is it—an hour? A. I would say approximately forty-five days—thirty- to forty-five days.

Q. What factors, to the best of your knowledge, influenced the ability of General Cable to get its Properzi started in such a short length of time as opposed to the experience that you were observing at Ferndale? A. Primarily, General Cable, as a company, had many years of Properzi operating experience.

Q. Was the crew that was operating the new Model 8 experienced? A. No, not to my knowledge.

Q. Was the physical setup at General Cable different from the physical setup at Ferndale? A. Every Properzi installation has its own peculiarities of installation layout. We do not control the support equipment that is installed with the unit, essentially, the furnace arrangement layout, the building, service facilities for the building in the way of mobile equipment, cranes, floor space, and so forth. So the answer to your question is: Yes, it was different, but so are many, many dozens of installations everywhere.

(30) Q. How was it different from Ferndale in terms of significant engineering—the differences, Mr. Raiford? A. No significant difference that would relate to success or lack of success in an operation.

Q. Why then does it make so much difference whether or not the company who is going to run the Properzi has operating experience on a Properzi? A. Primarily, it is beneficial from a standpoint of control of the operation, recognition of operating variables, the same as any system of process equipment.

Q. When you say— A. It is not peculiar to a Properzi operation.

Q. It is not did you say? A. Not experienced—experience is not peculiar to Properzi operation.

Q. You correct me if I am wrong, but I think you have indicated to me that the primary difference between General Cable and Ferndale was the fact that General Cable had experience operating Properzis, and you haven't articulated any other difference to my knowledge. A. Primary experience to the management, the manager. The manager of the General Cable installation at Hot Springs, which was—personally, as Plant Manager, he was very much experienced to be the Project Manager for the start-up and so forth, and which he assumed the total responsibility, (31) and because that was the only piece of equipment they had running at that present time, they were building the remainder of the plant.

Q. So the General Cable Properzi wasn't operating in a cast house then, was it? A. Not at Hot Springs, no.

Q. It wasn't operating at a reduction plant either, I guess then? A. No.

Q. You don't think these were significant differences related to the success or the failure of the Properzi start-up? A. They can be related, but they are not in themselves one hundred percent valid, significant differences.

Q. But they can be a factor? A. But they can be a factor, the same as many other things can be a factor.

Q. Now you have indicated that the manager I believe at this Hot Springs installation recognized the operational

variables. Is that what you said, or am I— A. He had many years of personal operating experience.

Q. What are the operational variables that the management of the plant has to recognize in order to have a successful start-up? A. Essentially, it is comprised of the basic metal itself (32) furnace practice particulars, temperature control of the metal, metal supplied to the caster, temperature control of the exit bar from the caster, temperature control of the inlet bar to the rolling mill, supply, volume, temperature of the rolling pool to the rolling mill, testing evaluation of the finished rod from a quality tensile, temper standpoint.

Q. In February, 1968, Mr. Raiford, did you come to any conclusions as to why the operation of the Ferndale Properzi had not achieved the desired level? A. As far as I recall, in February of '68, I drew no conclusions at that time.

Q. Do you recall whether or not you made any recommendations to Mr. Kilburn as to how the operation might be used in February, 1968? A. I think basically in February, my recommendations are outlined in the notes that I had submitted and reviewed with Mr. Kilburn and any and all other parties affiliated with the operation.

Q. Who do you mean by "any and all other parties affiliated with the operation"? A. Primarily, Mr. Kilburn and anyone else that was present or I had discussed the operation with who would be directly concerned with the operation.

Q. Do you remember making any recommendations to Intalco (33) employees in February of 1968 concerning ways in which the Properzi operation might be used? A. No, I don't recall. I feel that all of my recommendations were directed to Mr. Kilburn who was responsible for the operation at the time.

(At this time, there was a dismissal for lunch. Deposition resumed at 1:10 p.m.)

Deposition of Paul K. Raiford

By Mr. Hamilton:

Q. Mr. Raiford, before we broke for lunch, you had just completed, I believe, telling me about the February trip that you made to Ferndale. Have you told me everything about that trip over and above what you might remember if your recollection was refreshed by a document or by a specific question? A. I think during the February trip—in answer to one of your questions what was my expectations as to how far the equipment start-up had advanced at the time—I felt that in the November-December trip and then again in February—I felt at the February occasion that we had mostly resolved any what we felt were marginal equipment problems as far as what we were associating with, and then my recommendations as outlined here in these notes are basically related to metal supply to the unit, variable control, both of the furnaces and casting wheel operation, the rolling mill and rolling mill operation, all having to (34) do with a training and development of the operation in order to insure that it is as successful as I could assist in making it so.

Q. Prior to your February trip, had anyone else from Nichols visited the Ferndale operation to give technical advice or assistance over and above the trip of Mr. Russell which you mentioned as having occurred in early November at the actual commencement of operations? A. As far as I recall, I don't remember the specific period in which the coiler was received and the unit was shut down for the subsequent installation of the mechanical coilers, but I think it was after my February visit. I think the preparatory work was being done at the time regarding the shutdown of the unit for the installation of the coilers, and in March and between November-December and my visit in February, I don't recall anyone from Nichols actually visiting the operation.

Q. Do you know whether or not Mr. Russell ever made a second visit to the Ferndale operation? A. No, I don't think he did. I don't think he made another visit.

Q. Did he continue to have any responsibility of any kind with respect to the Ferndale operation in terms of giving technical advice or anything like that? A. To a degree, I think. This operation, as well as any (35) others, we would consult with each other and discuss the operation, and also if requested by telephone either from, you know, Mr. Kilburn or anyone else, we would of course converse with them on the telephone if it so happened.

Q. Can you distinguish for me between the role being played by Mr. Russell and the role being played by yourself insofar as the Ferndale operation is concerned? A. Basically, you would say the role, Mr. Hamilton, was generally the same thing, but within a short period of time there, we had the Intalco unit, the General Cable unit, and the Alcoa unit all within a three- or four-month period—were delivered all about the same time—so Mr. Russell was basically out of town. He spent time at General Cable and spent some time at Alcoa, so within this November-December, January, February period in there, was from an equipment delivery schedule, was a pretty active period. So that, I feel, is a reason why he was less involved in this particular one after the initial start-up.

Q. Did you subsequently take on responsibilities with respect to the General Cable and the Alcoa installations? A. General Cable—in around December I made a visit to both General Cable and Alcoa, and then again General Cable in the end of January or first of February, somewhere along in there.

(36) Q. This was December of '67 and January and February of '68? A. Correct.

Q. So that both of you, during this period of time, were involved at both plants then? A. Right, right. However,

our involvement at Alcoa was more or less a courtesy call basically because we weren't generally involved in the Alcoa other than a pure mechanical checkout of equipment.

Q. How would you characterize your relationship to General Cable? Was it a courtesy call at Alcoa, or were you involved at the same extent with Essex, or where would you place that? A. Our involvement with General Cable was primarily related to evaluation of the copper ring mold as supplied with the original No. 8 equipment and a recommendation that they install a different type mold which they subsequently did the first—around the middle of January, somewhere along in there. Then General Cable, at the time, were experimenting, and subsequently changed the material of the pouring spout, as I pointed out earlier, which were the two most troublesome equipment faults that existed on the earlier equipment.

Q. Were these other two companies, Alcoa and General Cable, also having trouble with the steel bands? A. Not to the extent the same as Intalco that it was (37) constituting a problem that couldn't be coped with from operational standpoint.

Q. This was not a technical problem in the same category— A. Not in the same category at that time as the mold and the pouring spout. It was something that all companies later carried the experimentation on their own in construction without recommendation and involving belt steel alloys, gauges, widths, so forth. But it wasn't something at that time that prevented the successful operation of the equipment.

Q. Do you recall whether or not you were having trouble by February, 1968 with the solution which cooled the equipment, a coolant? A. One soluble rolling oil for the rolling mill, is that the question?

Q. Yes. A. At that time, all of the installations or the majority of installations prior to the No. 8 unit were using

the same type of water soluble rolling oil and still they are using basically the same type– not that all companies in the United States are using the same type, but the majority of them in the U[illegible]re using one brand of rolling oil.

Q. That is true whether it is a Model 7 or 8? A. Yeah, yeah; 7's or 8's are using basically the same brand.

* * *

(39) Q. Would you relate for me the substance of that conversation between yourself and Mr. Kilburn? A. Basically, the substance of the conversation was related to an inquiry by Mr. Kilburn as to whether we would entertain any interest in providing such a technical service start-up assistance. At that time, I commented to Mr. Kilburn that we would and I would converse with Mr. Murphy and Mr. Morris regarding the same.

Q. Do you remember anything else about the conversation? A. Essentially, at that time, I felt that Mr. Kilburn as well as possibly AMAX management was disappointed as to the progress to date and very specifically, so we felt that we had satisfied any required equipment modifications, namely related to the casting ring mold and the pouring hardware.

Mr. Finer: Excuse me—

A. The pouring spout. We felt that we knew of no reason why this operation shouldn't be successful. The units at the time—namely, General Cable and Alcoa—were running what we felt were very reasonable production rates, quality, etc.

Q. Did you draft the contract which is attached to the first page of Exhibit 190? A. Basically, yes. In conjunction with discussions with Mr. Murphy and I am sure Mr. Morris, we did. * * *

* * *

(42) Q. Over and above the furnishing of trained personnel, Mr. Raiford, were there any other specific changes which you felt had to be made in order to get that Properzi operating properly? A. Basically, Properzi unit, because it sequentially ties together principally about five functions, is a complex piece of equipment, and we felt that in order for this unit to operate successfully as well as any other unit with any other company that there had to be a required degree of recognition on the part of both Essex and AMAX that many, many variables were involved and that these variables had to be recognized and controlled and people trained to cope with the variables on a day-to-day operation.

Q. Did you feel that the management had not at that time recognized the importance of these variables? (43) A. That is an opinion that I feel maybe they did and maybe they didn't.

Q. I want to know what you concluded in approximately January-February, 1968, Mr. Raiford. Had you concluded at that time that management was not recognizing the importance of these variables? A. I can't conclude that they didn't recognize them, but I can conclude that because of the presence of the equipment in a new plant which was undergoing expansion particularly in the casting department that perhaps everybody recognized them, but I felt that they had more work than they had the number of people to go around, and that, consequently, possibly it wasn't getting the attention and the priority that we felt it should be getting in order for us to assure that the representation of the equipment was not jeopardized.

Q. How did you feel to rectify that situation, had that contract been signed—and by that contract, I mean Exhibit 190— A. Yeah, my thinking on it, and I think it was our mutual opinion, that we could not assure in any way that we would change anyone's opinion or increase or decrease the workload related to the new plant, the expansions that

were going on within the casting department. Our objective here was to provide the degree of services with competent (44) experienced people that would show that the equipment would operate in accordance with the expectations. In other words, it wasn't our objective to necessarily educate, train all parties concerned. Our objective was to provide the services that would discount any reflections on the inadequacies of the equipment. That was our primary objective.

Q. Did you ever inform any of the management personnel at Intalco that you did not believe that the Properzi was getting the attention and the priorities that it required? A. Yes.

Q. Who did you say that to in substance? A. In meetings initially with Mr. Kilburn, and subsequently in meetings with Mr. Kilburn, Mr. Ferrie, Mr. Macdonald, Mr. Briggs, Mr. Loyer.

Q. Can you tell me the substance of what you said in those meetings with the Intalco people? By "Intalco people," I mean Mr. Ferrie, Mr. Macdonald and Mr. Loyer. A. Basically, it was related to conversations centered about the fact that after removing the essential two components that related to equipment that we, at Nichols Aluminum, could not see any reason why the equipment should not be successfully running and that equipment of identical design with the two principal changes in hardware that I previously related was successfully running and that (45) we did not feel that this equipment should not be doing anything other than a similar degree of operating.

Q. Did you tell them why you felt that the Ferndale equipment was not operating with the same success as the other two Properzis? A. Yes, in initial conversation with Mr. Kilburn and then in later conversations with both AMAX and Essex and Mr. Kilburn. My recollection is that the discussion frequently came up as to why General Cable—for example, it went onstream basically about the

same time—why was it being successfully operated, and of course the answer was related to their years of operating experience plus the degree of emphasis that was placed on the successful upgrading of the operation by General Cable in start-up, and I felt in order for this operation to be the same, of that parallel, emphasis had to be placed on it by Mr. Kilburn and all concerned AMAX management.

Q. By "AMAX management," who do you mean? A. First, second, third, fourth, fifth, sixth, and all levels of management, that it had to be supervised by Mr. Kilburn and the first level of management and supported by subsequent higher levels of management.

Q. By "subsequent higher levels of management," do you mean Mr. Macdonald and Mr. Loyer? A. Yes. Well, Mr. Ferrie was working manager at the time, (46) so he was the next level of management.

Q. What I am saying, what you mean by "AMAX management," you meant Intalco? A. Yes, Intalco. By AMAX, I meant the clearing corporation if I understand the organizational structure.

Q. But the second, third, and fourth levels of management that you are referring to as needed to support Kilburn were basically Macdonald, Ferrie and Loyer, is that right? A. Yes. Actually, the way the organizational structure existed, they had a first-line foreman, then they had a casting department general foreman who was responsible for the first-line foreman, and then the general foreman reported to Mr. Macdonald who was the casting superintendent who in turn reported to Mr. Ferrie who was working manager, so that basically was four levels of management.

Q. What specifically did you feel that the Macdonald-Ferrie-Loyer group needed to do? A. I feel that from a standpoint of our company as representatives for Continuus—I felt from an equipment standpoint that the equipment was of such a nature at the time that it should be

operated successfully, but from a standpoint as to why—I just felt at the time that possibly it wasn't getting the priorities that were required in the way of metallurgical support, technical, maintenance, engineering, and so forth, and why—that is (47) basically for someone else to determine.

Q. I understand. A. I just commented on the fact that that is what I saw.

Q. Do you recall any specifics, Mr. Raiford, that led you to the conclusion that the Properzi was not getting the engineering maintenance and technical support that it needed? A. It is difficult for me to comment on specifics for the reason that every time I went there the equipment was either not being successfully ran or not running, so I personally received the support. But during my absence, which was most of the time just short visits, I have no way of knowing what the problems were because I wasn't present, so I can't comment on why or the wherefores of any support.

Q. Do you recall what Messrs. Ferrie, Macdonald, or Loyer said when you made these recommendations about the need for more support from management? A. Their comments were always favorable. They expressed a keen interest and desire to see the operation run, and they did not ever disagree with any recommendation I made. They recognized that we were doing everything we could to try to insure the successful operation of the equipment in that we were concerned about equipment that wasn't being successfully operated, and so therefore, (48) they recognized as well as I did—as well as Mr. Kilburn—that there should be no reason why this equipment shouldn't be running because they collectively and individually knew what was transpiring with an identical unit, General Cable. So therefore, the question was: Why isn't this unit running?

Q. And you know the answer of that question as to why that unit wasn't running, anything over and above what you have already told me? A. Not specifically, because from a standpoint of the concerned parties, I feel that everyone recognized what needed to be done, what was required both on the part of Mr. Kilburn as project manager and on the part of the AMAX Intalco management, and they as well as I could see no reason why the equipment should not have been successfully running. It wasn't a problem that they had a poor hourly group by no stretch of the imagination. So when I went there—I cannot comment on what transpired in their own inter-company discussions or Mr. Kilburn's meetings with them.

Q. Have you ever met a Mr. Hoboy from American Metal Climax? A. Yes.

Q. When did you first meet him? A. Oh, I have met him many, many years ago, but I think the reference you have here is in the spring of '68—around (49) April or sometime during that is when I most recently met him.

Q. What was the occasion for that contact with Mr. Hoboy? A. I don't recall whether we had any specific discussions at the time. Principally, I had met Mr. Hoboy previously and Mr. Murphy had known him previously. He was for many years affiliated with Kaiser Aluminum.

Q. Oh, he was? A. Yeah, so Mr. Murphy had worked with him and known him very well. I had only casually met him.

Q. In July of 1967, Mr. Raiford, Mr. Hoboy made the following recommendation with respect to that Ferndale Properzi: "This product will require attaining familiarity with the technical and metallurgical idiosyncrasy of this machine and this process. The operation of the machine and equipment will present very few problems. However, establishing the proper operating temperatures, speeds, cooling rates, chemical composition of the aluminum and

other technical aspects and requirements will require a great deal of attention." You agree with that, Mr. Raiford? A. Very definitely.

Q. Do you think that the Intalco management was giving that "great deal of attention" in January and February of 1968? A. This is an opinion on my part. I can't answer for their considerations in my absence, Mr. Hamilton. All I can (50) say is that we and I, the same as Mr. Hoboy and his men there, on numerous occasions pointed this out. Now, I can't comment on whether they agreed, disagreed, or did not place the recommended degree of emphasis on this. I have no way of knowing.

Q. Well, you have been a cast house superintendent, haven't you, Mr. Raiford? A. Not in that particular capacity, no, but—

Q. You are familiar with the operation that goes in a cast house at aluminum reduction plants, are you not? A. Very, very definitely.

Q. Is there any difference between the kind of attention and care that must be taken in connection with the facilities that are in a cast house as opposed to the attention and care that must be taken in connection with the operation of the Properzi? A. Yes.

Q. What is the basis for that difference in care that is required? A. Basically, it is related to the fact that in this type of operation, you have linked together a number of sequences that in the normal cast house operation do not exist—furnace operation, some type of caster, a rolling mill, and a coiler—four basic sequential operations, wherein most cast houses, you usually only have two.

(51) Q. So these are a different kind of operation? A. Different kind, yes.

Q. Is it more precise? A. More precise, more attention required to control the variables. Because all variables are interrelated and the more sequences you have, the more complex becomes this interrelationship between variables.

Q. Do you know when Mr. Hoboy left Kaiser, approximately? A. No, I don't know specifically when he left.

Q. Was it before you did? A. Yes.

Q. Do you know whether or not he had any experience in connection with a Properzi while at Kaiser? A. Indirectly and possibly directly related to their West Berlin operations, but I do not know specifically since I wasn't personally involved in that operation.

* * *

Q. I believe you indicated, Mr. Raiford, that in February on your trip to Ferndale the coiler had not yet been installed; is that right? (52) A. Yes. If my memory is right, they were preparing at that particular time to shut down the unit within a week or so to install the coiler.

Q. Did you have anything to do with the installation of the coiler? A. No.

Q. Did anyone from Nichols advise in connection with that installation of the coiler? A. Mr. Fox was present with the coiler manufacturer's representative.

Q. Do you know whether or not that was Mr. Fox's first visit to Ferndale? A. I think so. I think that was his first visit.

Q. Is Mr. Fox still with your company? A. Yes.

Q. Is he located here in Davenport? A. Yes.

Q. What is his position now? A. Plant Engineer in Davenport, the same as when this coiler was installed.

Q. In March of 1968, did Mr. Fox report to you; do you remember? A. No, he was reporting at that time, as I recall to Mr. Murphy.

Q. I will show you Exhibit 191, Mr. Raiford. Do you remember (53) seeing that before? A. Yes, I recall this memorandum, yes.

Q. You have got a carbon copy of it as a matter of fact, probably in March of '68? A. Yeah.

Q. Did anything in that memorandum shock or surprise you at the time that you can recall? A. No. I was not happy, but, no, it didn't shock me.

Q. Mr. Murphy—in the memorandum 191—indicates that, based upon Mr. Fox's report, the following: "It is obvious from your comments that no one pays any attention to detail." Did it surprise you in March of 1968 that someone would draw that kind of a conclusion about the people operating the Ferndale Properzi? A. Perhaps this is a little more explicitly worded than I would have worded it, but, yes, I think this is indicative of the fact that we did have a lack of recognition on the part of a number of people, that inattentiveness was paid a lot of detail.

Q. It goes on to say, "They let little things go and nobody gives a damn." Was that also the conclusions that you had drawn at that time, Mr. Raiford? A. Not totally, no. Like I say, this here is written with a few more expletives than maybe is merited, but I feel that it does indicate that either there was a lack of (54) concern for detail or the absence of knowledge of things going wrong and taking corrective action either on the part of people individually or collectively.

Q. When was your next trip referred to, Mr. Raiford? April 10th to 12th? A. April 10 to 12 according to my schedule there. I don't recall all those dates, but at least what I have written here, I recall it.

Q. Do you remember whether or not there was any specific occurrence or happening which precipitated that particular trip to Ferndale? A. Again, beginning around the middle of February, we were very disappointed in the progress made to date on the equipment, and during this period I received a number of phone calls from Mr. Kilburn and Mr. Li regarding the operation. My efforts at that time were centered about trying to advise troubleshoot problems over the telephone, and I was disappointed that the equipment was not progressing any faster toward a successful operation than it was. So therefore, I at-

tempted to do everything I could by telephone counsel to assist in the operation.

Q. Then why did you go out in April? A. Evidently because I wasn't making progress by my advice over the telephone. I don't recall the specific reason, but the nature of the telephone conversation indicated (55) that inadequate progress was being made. So therefore, in respect to our concern over the operation, I decided to go back out and see what I could do for a few days again.

> Mr. Hamilton: For the record, I'd just like to note that that memo I was reading from that gave Mr. Hoboy's recommendations a few minutes ago was Exhibit 121.

Q. What did you find, Mr. Raiford, when you arrived on April 10 at Ferndale insofar as the Properzi operation was concerned? Was it functioning properly? A. I do not recall, Mr. Hamilton, specifically whether it was functioning properly at the time. My only recollection is the fact that I would not have gone there if it had been functioning properly either prior to the visit or during the visit. I feel that it was evidenced by many shortcomings at the time. Otherwise, I wouldn't have gone out there again.

Q. What were the shortcomings that you saw on this visit? A. Essentially, the same as on previous visits—the lack of adequate progress and, basically, in the way of recognition of variable control and operational and supports surveillance conducive to a good operation.

Q. Did you make any recommendations as far as changes in equipment were concerned while you were there in April (56) that you can recall? A. Essentially, I don't think I did because I felt at that time that they had installed the right coilers and they had no reason to limit the production rate of inadequate ability to coil.

* * *

(57) Q. Do you recall the meeting, Mr. Raiford, with Intalco (58) management that took place during your April 10th to 12th visit to Ferndale? A. Yes, we did have a meeting during that period.

Q. What was the purpose of that meeting? A. Basically, to review the operation and to express my concern about the reputation of our equipment that I felt was being unnecessarily criticized. My objectives during the bulk of the visit to Intalco were twofold: One, to assist in every way possible; and secondly, as sales agent for the manufacturer, to do everything within my ability not to jeopardize the reputation of our equipment.

* * *

(59) Q. Did you make any recommendations at the time of this April 10th to 12th visit concerning steps that should be taken to improve the operation of the Properzi? A. Yes, I did make a recommendation which was basically two-fold: One is to emphasize the fact that there was no reason why the equipment should not be successfully operating; and secondly, to reemphasize the fact that the success of this operation depends upon the recognition and control of variables and the metallurgical, technical, engineering maintenance support that is required. At that meeting, I did recommend that I didn't feel that Mr. Li was sufficiently experienced and was aware of what is required, and that I felt that there was an absence of decisive, dynamic leadership.

Q. To whom did you make that recommendation to? A. I made that recommendation to Mr. Loyer, who was President of Intalco at the time.

Q. What did he say if you recall? A. He concurred and advised Mr. Ferrie to replace Mr. Li.

Q. Do you know whether or not that was done? A. That was subsequently done. I don't recall the exact time.

Q. Do you recall the man that replaced Mr. Li? A. That was Mr. Bodell. At this point, Mr. Hamilton, I want you to understand that we were concerned about the (60) progress at which this equipment was underway, and I of course could personally on my two previous—particularly one previous and again this third visit—I was not in the least satisfied with the progress that had been made, and regardless of the reasons which occurred, and I am not qualified to comment as to what transpired in my absence because I wasn't there, so I have no way of knowing, but I personally was not satisfied with the progress made. I felt that from an equipment standpoint, it was being unduly criticized and it wasn't warranted.

Q. But you also felt that the replacement of Mr. Li be a step in the right direction, isn't that a fact? A. Obviously I felt that way or I wouldn't have made the recommendation I guess.

Q. Did you make any other specific recommendations to Mr. Loyer that you can recall at this point, Mr. Raiford? A. No, nothing other than I have mentioned.

* * *

(78) Q. How many No. 8 Properzis are operating in the United States? A. Eight.

> Mr. Morris: There's eight. No—I'm sorry—I've got Kaiser twice. There's only seven—General Cable, Olin Conductors, Noranda Aluminum, Essex, Reynolds, Alcoa, and Kaiser. So that is seven.

Q. Do you know whether or not each of these machines are performing up to specifications? A. Yes, they are either performing in accordance with specifications or exceeding specifications.

Q. Is there a single machine among those seven that is being (79) operated with a furnace arrangement and

size and with the casting wheel angle similar to the furnace arrangement and size and casting wheel arrangement as Intalco? A. The Alcoa unit is basically the same furnace arrangement and size.

Q. But isn't it true that the angle has been reduced, the angle of the casting wheel? A. I can't answer that question. I am not positive that Alcoa's unit is at the twenty-five degree angle or is at a twelve or fifteen degree.

Q. How many Properzis did the manufacturer produce having a casting wheel angle of twenty-five degrees? Which was the first Properzi that had a reduced casting wheel angle? A. Well, of course it is not a question of production. It is a question of the installation—when it is installed.

Q. I see. A. It was either Alcoa or Olin was the first one at the reduced angle, because I am not positive that Alcoa's was at twelve to fifteen degrees or it was at twenty-five, but I know that General Cable's and the Intalco installation was at the larger angle.

Q. Since you cannot recall the angle at the Alcoa installation, is it fair to say that you cannot categorically state that there is any Properzi operating (80) up to specifications having the same casting wheel angle and furnace arrangement as that at Intalco? You cannot state that there is such a Properzi operating? A. I cannot categorically say that without ascertaining what the angle is on the Alcoa unit.

Q. Do you know whether or not the machine that was removed from Intalco has, since its removal, been operating up to specifications? A. To my knowledge, Mr. Finer, it is operating in accordance with its guaranteed specifications of production rate.

Q. Do you know if the size and arrangement of the furnaces in its present location is the same as the size and arrangement of the furnaces at Intalco? A. No, they are not the same as Intalco.

Q. They are not the same. Are the furnaces larger? A. Larger furnace capacity with a different arrangement.

Q. Do you know whether any change has been made with respect to the casting wheel angle? A. The casting wheel angle was reduced when it was reinstalled to fifteen degrees, I think.

Q. I see. After that first Properzi No. 8 was sold, were any other modifications made by the manufacturer on subsequent streams? Any other modifications in addition to the angle of the casting wheel that was recommended? (81) A. Yes, the only other modification that was made on other units was a redesigned copper ring mold and a revised mounting related to the mounting of the copper mold between the steel flanges.

Q. Did you previously testify when Mr. Hamilton was asking you questions that a modification of the copper ring mold was made on the basis of your recommendation on the Intalco Properzi? A. Yes.

Q. Did Nichols have any role in the start-up of the Properzi in its present location? Let me ask you first: Do you know where the Intalco Properzi is presently being operated? A. Yes.

Q. Could you state for the record? A. It is being operated at Essex facility at Booneville, Indiana.

Q. Did Nichols have any role in the start-up of the Properzi in Booneville? A. Yes.

Q. Could you elaborate on that? What role did Nichols play? A. They provided start-up assistance in the relationship of sending experienced operating people for a duration of time.

Q. Would you say that the services that you provided with (82) regard to the start-up of the Properzi in Booneville was substantially greater than the services you provided at Intalco? A. Of a different nature but not substantially greater, no. Of a different nature.

Q. Why didn't you provide those services at Intalco? A. We provided at Intalco the initial start-up check-out services as related to the presence of a Nichols Aluminum representative and the manufacturer's representative. Subsequent services at Intalco were essentially related to the visits of myself and on one occasion, Mr. Fox, on a coiler installation. The services provided to Essex at Booneville were not necessarily more pronounced in scope. They were different in nature of timing from a standpoint of the number and duration of people who we sent there.

Q. Did Essex compensate Nichols for these start-up services at Booneville? A. Yes.

Q. Was there a written agreement that embodied the arrangement between Essex and Nichols? A. No. The services were provided on a per diem basis.

Q. Are there any letters between Nichols and Essex that reflect the arrangement that have any bearing on the arrangement for start-up services? (83) A. Not from a contractual standpoint.

Q I am not asking you to interpret the meaning of the word "contract." I am just asking you whether or not there is any correspondence discussing the arrangement between Essex and Nichols with regard to the start-up services that Nichols had provided at Booneville? A. Yes, there should be something in that file related to a letter and a purchase order for the services, but that is not related to the Intalco project. In other words, that was not in the file related to the Intalco project.

* * *

(85) Q. Is it true that the Intalco Properzi No. 8 was the first No. 8 sold by the manufacturer? A. Yes, the first one delivered and installed, yes.

Q. Would you call it a prototype? A. I would call it a prototype, Mr. Finer, because as I outlined earlier, any questionable hardware was basically related to two com-

ponents—the copper ring mold and the problems associated with the pouring spout.

Q. Would you agree or disagree with the proposition that since the Intalco Properzi, which was the first one delivered, that it was understandable that it would have several imperfections that would not be overcome until subsequent machines were built? A. The troublesome items of the caster were, you know, of not insurmountable proportions, and I felt that after several months after the initial start-up, we'd resolved the problems associated principally with the copper ring mold which was the initial problem, and permanentation related to materials of construction of pouring spouts continued and have continued and are are still being evaluated. It is a type of item that you continue to (86) look for improvements.

* * *

(94) Q. I am not suggesting anything. I am suggesting that prospective from which you come to the problem would tend to make you minimize any failings of the machine and to place the fault on other parties. A. In the reference in your question to previous statements I made, no, I did not minimize the fact that we did have a problem initially with the original design, the copper ring mold, on that unit as well as on the General Cable unit. Also, we had a problem with the pouring spout of this new, larger designed unit, but some of my answers to other questions were related that after several months that we had solved and had resolved the biggest problem, and that was the copper mold. That was evidenced by a successful operation with its sister machine at General Cable when we made the same changes.

* * *

(96) Q. I mean, that as prepared as originally designed produced metal at the rate of 14,000 pounds per hour without any modifications from the original design given to

Essex? A. Could the equipment—let me make sure I understand your question, Mr. Hamilton. Could the equipment as originally provided, namely, the caster at Essex and Intalco, produce bar at a rate of 14,000 pounds per hour?

Q. For a week's sustained production. A. For the first week it was in operation?

Q. No, sir; without changing the mold, without changing the spout, without changing the ring, without changing the metal band, without making one change in that Properzi, was that machine capable of operating at the rate of approximately 14,000 pounds per hour for a sustained period of time as far as you know? A. Equipment-wise and physically, it was capable of running 14,000 per hour.

Q. Without changing the spout? A. Without changing anything, it was capable of being run.

Q. Nobody ever did it; is that a fact? Isn't that a fact? A. Yes, they did, General Cable.

Mr. Morris: General Cable.

Mr. Hamilton: Mr. Morris, I will have to ask you (97) to leave if you prompt the witness.

A. The problems that were related to the length of the cast and the premature failure of the original mold as provided—

Q. When you say "premature failure," how long did it take to have that mold fail? A. The original one failed, as I recall, at Essex and Intalco within a few hundred thousand pounds as opposed to later molds of several million pounds. The initial problem that we had with the Essex and Intalco units, the General Cable unit was similar in nature but slightly different in results. Basically, Mr. Hamilton, the General Cable unit, because of the experience that the number one responsible person had within a very, very short period of time, they were producing quality rod

at a very acceptable or at the 14,000 pounds per hour production rate, but their problem was related to down-time concerned with premature mold failure.

Q. Yes, sir. As far as you were concerned, Mr. Raiford, as a representative of Properzi in the United States, you didn't feel that that Model 8 was going to perform satisfactorily unless that pouring spout was changed; isn't that correct? A. Unless the pouring spout was changed from a material standpoint, not the design.

(98) Q. Yes, sir. A. And the original mold was replaced by either an improved Properzi design or a design of our recommendation.

Q. But both of those changes had to be made before you, as a representative for Properzi, thought that that Model 8 would operate in a satisfactory manner? A. Before we were satisfied with the operation in basically satisfying down-time production rate, maintenance aspects and everything.

Q. I understand. A. In other words, just to isolate one particular thing, Mr. Hamilton, I can't do that.

Q. I understand that. A. It was capable of doing it, sure, and it was demonstrated that it could be done, but—

Q. It wasn't going to be satisfactory to you as the representative of Properzi? A. No, no, because we experienced the same problem at both locations with the two earlier units.

Q. When you were talking about the specifications in the Model 8, when Mr. Finer was talking to you, you were referring I presume to the specified output of 14,000 pounds per hour, is that right? A. Uh-huh.

Q. You weren't referring to any other specifications I (99) presume? A. Well, no; no other specifications other than the rated output.

Q. Now as a matter of fact, that original Model 8 specified secondary cooling, didn't it? A. Yes.

Q. That secondary cooling has never, even today, been perfected, has it? A. No, it is not currently being used, no.

Q. So that Model 8 that we installed at Intalco certainly didn't live up to its specifications insofar as secondary cooling is concerned; isn't that fair? A. Well, I can't say that it never lived up to it, Mr. Hamilton. It was never used.

Q. But it was included in the original specifications, correct? A. It was included as a part of the original complement of hardware, yes.

Q. Mr. Raiford, is there any relationship between the size of a furnace and the angle of the casting wheel? A. No.

Q. In other words, if you have a bad angle on a casting wheel, you can't rectify it by changing the size of your furnace, is that right, or vice versa? A. There is no relationship between furnace size, capacity, (100) and the angle of the casting wheel, no.

Q. I believe you did testify that General Cable used the same angle that the Ferndale Properzi utilized, isn't that right? A. Yes.

Q. They used it correctly, isn't that right? A. Yes.

Mr. Hamilton: I don't have anything else.

Service of 5 copies of the
within Appendix is hereby
admitted this 14th day of
March 1975

Signed _____

Attorney for Plaintiff-Appellee

5 COPIES RECEIVED
March 14 1975
WOLF, HAAS, RIFKIND, WHARTON & GARRISON
By ugs